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ABSTRACT

This is a study of differential student recruitment and of changes in student characteristics at 3 highly selective, distinguished liberal arts colleges; 3 church-related colleges; and 2 large public institutions. The findings indicate how students changed from institution to institution in relation to their characteristics at entrance. These characteristics included educational and vocational values; religious, political, and civic attitudes; personality characteristics; and intellectual disposition. Intellectual disposition was a construct and continuum in which one extreme represented broad intellectual and esthetic interests, theoretical orientation, and intellectual independence, and the other extreme represented a practical orientation, conventional and less flexible forms of thought, and lack of esthetic interests. The only statistically significant evidence of differential change in intellectual disposition was the percentage of students in one of the elite colleges who changed from a pronounced pragmatic to a pronounced theoretical orientation over the 4 years. The report of the study summarizes changes on the several scales of the Omnibus Personality Inventory and changes in attitudes and values. (Author/HS)

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Students and Colleges: Interaction and Change

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1

The Problem of Change

For the founding fathers, "Education was to be the instrument of change, change of nature . . . and of human nature (Commager, 1966, p.4)." Yet during the ensuing two centuries, the American people have never fully embraced this philosophy. That basic skills of social participation–reading, writing, and arithmetic–should be imparted, they have had no doubt. That knowledge of sheer historical fact is appropriate, they have long and widely supported. But that education should reach to the deepest sources of virtue, belief, and character, or even to the highest levels of intellectual criticism, the people have not so completely accepted.

In every era, the majority of parents and society at large have really feared certain kinds of change. They have not wanted the schools and colleges to encourage students to appraise, and perhaps to alter, their social, moral, or religious attitudes. They have expected educational institutions to confirm, not criticize, the values which family and social class have inculcated in young people. In recent years, many parents have become deeply perturbed when college students have questioned accepted moral standards; challenged the values and practices of a materialistic, acquisitive society; denounced the Vietnam war and the alliance between industry and the military (and the universities); or flouted established authority. As Commager (1966, p.11) observed, ". . .at almost every level schools were expected to adapt the young to their society; the prospect of confronting young people with ideas alien to society has commonly filled parents with alarm." That this may be less true of highly educated, upper-middle class parents is suggested by a study (Watts, Lynch, & Whittaker, 1969) of the parental relationships of student activists; these students were more likely to have warm associations with their parents even when there were ideological differences between them. Nevertheless, a study of students who were admitted to the Irvine campus of the University of California in the fall of 1970 showed that they disagreed sharply with their parents on issues ranging from dormitory rules to politics. Parents expressed a desire for their sons and daughters to develop independence while at college, but seemed reluctant to lose their influence over them (Clark, W., 1970).

The American people have had a strong faith in education, but the great majority of them have valued its schools and colleges more as means of occupational training and social mobility than as instruments for modifying beliefs or altering personal character.

There is considerable variation among colleges and universities themselves in their attitudes toward student development. Some of them, instead of encouraging students to express their feelings more freely and stimulating them to approach ideas and social institutions critically and imaginatively, surround students with subtle limitations and constraints. The emphasis in certain institutions, for example, is to strengthen the religious orientations which students had previously acquired in home and church. Others may encourage students–or at least not discourage them–from questioning the religious beliefs they had absorbed from their earlier environment, and to arrive independently at their religious conceptions. Church-related colleges themselves vary in the nature and impact of their religious atmosphere and commitment. As later sections of this volume will show, students in one such institution changed little on a measure of religious orientation, remaining essentially as conservative as when they entered, while those in another denominational college changed to a more liberal position over the four years.

It is not only institutions with a strong, fundamentalist religious orientation which may circumscribe the range and reach of attitude and intellect. Other colleges and universities, or particular parts of institutions, such as some professional schools, may consciously or unconsciously serve to confirm or inculcate the dominant values of the occupations or the class to which students aspire. And in contrast, the general climate, or that of a dominant subculture in another institution, may dispose students to a more critical approach toward social and professional values and practices.

Those who do not want students to change significantly, except in general knowledge and specialized proficiency, need not be greatly worried. More than a decade ago, after collating data from as many published and unpublished studies as he could find (the number was not great, and the quality left much to be desired), Jacob (1956) shocked the academic community with the declaration that the great majority of American students are about the same when they leave college as when they enter. He concluded that if an institution has any impact at all, it is to socialize students . . .

> . . . to bring about general acceptance of a body of standards and attitudes characteristic of college-bred men and women in the American community. . . . No sharp break seems to occur in the continuity of the main patterns of value which the students bring with them to college. Changes are rarely drastic or sudden and they tend to emerge on the periphery of the student's character, affecting his application of values, rather than the core of values themselves [p.6].

In other words, higher education evidently did not touch the deep and pervasive elements of the student's character and personality, and college also failed to produce significant changes in his intellectual attitudes or processes. The student might learn more about history or mathematics, but his approach to learning—even in his special subject—was likely to remain conventional rather than innovative, orderly or systematic rather than imaginative and creative.

These were disturbing conclusions to both the laymen and educators who had assumed that colleges molded students. Jacob did make an exception to his findings, however. Some colleges, he said, do alter some students. Students in certain distinctive institutions did change. "Similar as the patterns of students' values appear on a mass view," he said, "the intellectual, cultural or moral 'climate' of some institutions stands out from the crowd. The response of students to education within the atmosphere of these institutions is strikingly different from the national pattern [p.10]." The institutions which have the potency to influence student values, said Jacob, are certain small, highly selective liberal arts colleges.

In contrast, large complex institutions, especially public colleges and universities with diverse student bodies and multiple functions, tend to have little effect on their students.

But these large institutions have enrolled ever greater numbers of students. Many more young people are going to college; the talk is increasingly of universal higher education. College has become more important—almost essential—for a career. Higher education proliferates into an almost frightening complexity of never-ending functions and specialties. Mass higher education raises the specter to academic men that more means worse. The longstanding tension between the ideals of the cultivated man and the expert explodes in conflict between those devoted to a broad, undergraduate liberal education and those primarily interested in research and specialized training.

Student protests in the late '60s were to sharpen the controversy over educational values and the failure of most colleges and universities to respond to students' questions about their own values, standards, and personal commitments, as well as their criticisms of the world around them, with its racism, denial of human liberty, bureaucratic insensitivity to human needs, immoral wars. Student activists condemned higher education for its irrelevance, for its subservience to the "power structure," for its concentration on specialization at the expense of a personally and socially meaningful education. To these critics, it presumably would not be surprising that colleges and universities have for long put a conventional stamp on students instead of stirring them deeply.

In the meantime, the dramatic Jacob report and the conflict of values in education combined to quicken research on what actually happens to students and how their college experiences affect their interests, values, and personality. Investigators reread Newcomb's (1943) original study of changes in Bennington girls, and Newcomb and associates made a comparable study (1967) of a modern generation of Bennington students. The Vassar study (Freedman, 1967) of personality development in college, was carried out in the '50s. The project reported in the present book began in the late '50s and extended through the early '60s. The principal purposes of this investigation were to answer these questions:

1. Do students in a diverse group of institutions become more interested in ideas as such, rather than in their utility; less judgmental and more tolerant and flexible in attitudes and relationships, and less dependent on external authority; less constrained and freer to express ideas and feelings; less anxious or socially alienated, and more capable of managing their emotional tendencies and of coping with environmental stress?

2. Do students change their educational and vocational values and aspirations?

3. Do they become more liberal and less conventional in their religious, political, and civic attitudes?

4. Is there differential change in the foregoing characteristics among students in dissimilar institutions?

5. If changes in student characteristics can be attributed, at least in part, to college influence, what kinds of effects occurred, and what are possible ways in which institutional impact may have been exerted?

In an early study of diversity of student bodies, Heist and Webster (1960) documented the amazing differences between freshmen in similar colleges. Such studies stimulated research on change in student characteristics during college. In reviewing investigations of student change and college impact, Feldman and Newcomb (1969) pointed to some of the complications of research design and analysis. All four authors emphasized that the "products" of the college must be seen in relation to their characteristics at entrance. Although Jacob recognized that potent colleges attract students of high potency, so to speak, he failed to take differential recruitment into account in estimating the degree of institutional impact. About the time the Jacob monograph appeared, psychologists had already begun to ask whether the merit of certain institutions lay less in what they did to students than in the students to whom they did it (Darley, 1956; Holland, 1957).

This question is relevant to two studies of college output which were widely interpreted as evidence of institutional impact. Both were investigations of the relative "productivity" of colleges and universities, defined as the percentage of an institution's graduates who later earned doctoral degrees (Knapp & Goodrich, 1952; Knapp & Greenbaum, 1953). In attempting to explain the superiority of certain institutions in producing future scientists and scholars, both studies put more stress on the impact of the college than they did on the quality of students it attracted. More recent attempts (Astin, 1962) to determine the factors related to productivity have suggested that, in fact, little of the variance among institutions can be attributed to the gross influence of the college, although there may be intra-college influences on students' motivation to complete doctoral training.

Essentially the same conclusion was reached in a study of changes in the personality characteristics of exceptionally able students over the college years. In this instance, institutions were found to have exerted a significant influence on the student, although the proportion attributable to the general characteristics of the college was relatively small in comparison to what could be ascribed to events which happened prior to college entrance (Nichols, 1965). This investigation, like most others concerned with student development, reported average changes in characteristics of groups of students. What happened to the group may in effect have disguised what happened to the individuals who comprised it. As a matter of fact, numerous individual changes occur in opposite directions; some students make higher scores as seniors than as freshmen on certain measures, such as personality scales, while others make lower scores than they did originally. Furthermore, many students do not change at all.

In any event, it is apparent that in studying the effects of college, attention must be paid to the problem of "input"–what the entering student *is* in intellectual disposition, emotional temperament, interests, motivations, attitudes, values, and goals. It is necessary to know much more about his educability, openness to change, and potentialities for development along significant dimensions of personality and performance. If one looks for *differential effects* of institutions, he must take into account their *differential recruitment.*

Differential recruitment to higher education has been most fully documented with respect to academic ability as manifested in previous scholastic performance or measured academic aptitude.

Most observers of the academic scene have become aware of wide differences in the ability of entering students from institution to institution, but many have not realized how great the disparity is. The classic study of differences in aptitude and achievement was, of course, conducted by Learned and Wood (1938) in 49 Pennsylvania colleges. One finding is indicative of the variability these investigators discovered. In the three colleges with the lowest average sophomore scores on a test of general academic achievement, no students scored above the mean of the highest college, and the student with the lowest score in the highest college was above the mean in the other two. In one of the states studied more recently (McConnell, 1960), only about 16 percent of the freshmen in the least selective institution had scholastic aptitude test scores above the average score in the most selective institution. Both institutions are small private liberal arts colleges. Differences in the academic ability of the freshman classes of the eight institutions involved in the study here reported are summarized in Chapter V. These institutions ranged from colleges which were probably as selective as any in the country to others whose average freshman scholastic aptitude test scores were below the particular test's normative mean.

Variations in characteristics other than academic ability may have much to do with the institutions students choose to attend and with their reactions to the college environment. Some institutions draw students predominantly from lower socioeconomic groups; others draw students whose fathers are primarily in professional or managerial occupations. Many students in one set of institutions will come from homes with rich cultural resources and families with strong interest in education. In another set of institutions students from such backgrounds will be in the minority.

Certain colleges attract students who profess to believe that the ideal institution should emphasize a basic general education and appreciation of ideas. Others draw students primarily oriented to vocational training. Some student bodies contain large proportions of young people who express liberal social, political, and economic attitudes. Others are comprised mainly of students with a much more conservative orientation. In certain institutions students express liberal religious beliefs; in others, students tend to be much more conservative and dogmatic in their religious views and practices.

Some institutions attract a large number of students who are intrinsically interested in ideas, who are motivated toward high academic achievement, and who can pursue their education with a high degree of self-direction. Other institutions draw heavily from the pool of students characterized by pragmatic rather than theoretical and vocational rather than intellectual interests and goals (Farwell, Warren, & McConnell, 1962; Feldman & Newcomb, 1969; McConnell, 1960; McConnell & Heist, 1961; and Trent & Medsker, 1968). For example, in one highly selective college, more than half the students were in the highest third on an index of intrinsic intellectual interests, while in an "open-door college" only 5 percent were at that level (Cross, 1968).

As later chapters will show, even the entering freshmen in the selective liberal arts colleges included in the present study differed considerably in intellectual orientation. Two of these colleges place primary, although not exclusive, emphasis on intellectual values, and both are highly selective in academic ability, although not equally so. Freshmen in the institution with the *lower* average academic aptitude test score expressed greater interest in matters of a theoretical and abstract nature, greater motivation for intellectual activity, and greater intellectual autonomy than the entering students in the other college. The former also were freer to pursue intellectual interests and novel ideas, and there is evidence that students with these attributes are more open to change in other characteristics (Chapter VIII).

In a study of the intellectual productivity of sectarian and nonsectarian students, Trent (1964) compared the intellectual dispositions of students who attended five Catholic colleges, which he did not claim to be representative of the nation's Catholic institutions, with Catholic students who entered a large state college and those who attended some of the well-known independent and Protestant colleges. Because his summary constitutes a striking example of differential recruitment, it is worth quoting here:

> With the exception of the state college Catholics . . . the Catholic college students appeared the least intellectual in attitude regardless of the comparison group. That is to say, they show the least interest in ideas, in critical and scientific thinking, in intellectual inquiry and in esthetic matters. They indicate the most

> dogmatism, intolerance, and general authoritarianism. . . The comparative lack of intellectual attitudes . . . by these seniors who by self-report may be considered potential graduate students, matched against other beginning graduate students, may be suggestive of the reason why even those Catholic college graduates who have obtained higher degrees have been found to be underrepresented in the community of scholarship. . . [Pp.8-9].

It is probable that these findings could be duplicated in some colleges of other denominations (Farwell, Warren, & McConnell 1962; Feldman & Newcomb, 1969; McConnell, 1960; McConnell & Heist, 1961; Trent & Medsker, 1968).

Evidence of differential recruitment to various kinds of institutions has been summarized as follows (Feldman & Newcomb, 1969):

> . . . certain types of colleges are in fact predominantly peopled by certain kinds of students. Academic capacity and family background . . . in particular, have a great deal to do with who goes where. Thus, nonauthoritarianism, various intellectual dispositions, and political liberalism . . . tend to characterize, in decreasing order: students entering private universities, public universities, private degree-awarding colleges, public colleges of the same type, and junior colleges. The more prestigious the institution, the more likely it is to attract and to admit those students who have already most nearly attained the characteristics of "an educated man" [p 144].

So much, at this point, for student "input"–on the backgrounds and attributes which characterize students as they enter, attributes that may dispose them to select different institutions, respond differently to curricula, teaching styles, campus life, and their own peers.

Now, how shall we look at the students after four years of college?

It is increasingly clear that what the individual is when he leaves is relative to what he was when he entered. If the effect of college experience is to be assessed, it is essential to know the characteristics of both the product and the original material. Before investigating impact one must first determine how students changed—or failed to change.

The outcomes which were assessed in the study here reported included intellectual orientation, religious liberalism, and autonomy, which have been discussed in connection with characteristics at entrance. The staff was also concerned with impulsivity in both thought and action, personal integration and emotional stability. The latter three characteristics, broadly conceived, lie in the affective or emotional domain, and the individual's affective tendencies may determine the extent to which he will be able to realize his intellectual potentialities. Emotional characteristics, it should be added, were not conceived of in the present investigation in psychotic or neurotic terms, but in terms of *relative* freedom or constraint, *degrees* of social accommodation, and *level* of emotional tension.

In addition to personality characteristics, which may be relatively pervasive and deep-seated, the outcomes studied included educational values and goals; career orientations; social, political, and economic attitudes; attitudes toward civil liberties; and indicators of "cultural sophistication." These outcomes, coupled with personality characteristics, comprised the "outputs" of the study and defined the dimensions for the measurements of change.

In a basic sense, intellectual, affectional, and attitudinal characteristics may be thought of as outcomes or as conditions on which outcomes are contingent, or as both. Considered as conditions, they may, at least in part, gauge an individual's potentiality for change in various directions during the college years. As outcomes, they may be conceived of as evidence of attainment of such educational objectives as an interest in ideas and their interrelationships; intellectual independence; enjoyment of intellectual inquiry; esthetic sensitivity and artistic appreciation; social responsiveness and responsibility; personal self-direction, and intellectual independence; and the ability to integrate impulses and purposes not as a closed system, but as a foundation for further development. Until recently, these outcomes, seldom measured, were unlikely to be reflected in achievement test scores or college grades. But they are the objectives which are central to the investigation reported in this volume.

Studies of student development have been facilitated by progress in the measurement of attitudes, values, interests, and emotional and intellectual dispositions. Studies of the impact of college on individual characteristics have also become more feasible because behavioral scientists have begun to devise means of measuring, or at least describing, *college* characteristics, "the prevailing atmosphere, the social and intellectual climate, the style of life of a campus (Pace, 1960, p.26)." Two useful methods of characterizing campus environments are institutional analysis and students' perceptions of environmental press.

Organizational or institutional analysis proceeds through an examination of many aspects of a college, such as curricular patterns, faculty values, the distribution of authority, public images, student traditions, and student subcultures. The methods of observation and analysis are both formal and informal: formal, for example, in identifying critical turning points in an institution's history or in administering questionnaires concerning faculty orientations; informal, for example, in conversing with students, faculty, and administrators in offices, coffee shops, dormitories, or faculty homes.

Another means of describing institutional climates is to administer the College and University Environment Scales (Pace, 1963), in which students' perceptions of general campus atmosphere can be scored on five dimensions: Scholarship, Awareness, Practicality, Community, and Propriety. On these scales it is possible to determine the degree to which institutions may have common or differential characteristics. For example, the three selective liberal arts colleges in the present study all scored at the top on scales measuring Scholarship and Awareness and at the bottom on the scale measuring Practicality. On the scales of Community and Propriety the three institutions showed large differences.

Even in small colleges there may be differences in what might be called environmental scope. As will be noted in subsequent chapters, the most selective of the eight institutions in the present investigation had a "narrow" environment characterized by almost exclusive emphasis on intellectual accomplishment. Another of the three selective colleges, on the other hand, offered students a greater range of options—more varied curricula, a greater variety of peer groups or student subcultures, and a wider spectrum of career lines. This college, therefore, presumably offered congenial atmospheres for a more diverse student body.

A large university with a dominant atmosphere, such as stress on practicality, may still comprise a great variety of student subcultures and a range of emphases from the highly intellectual and theoretical to the highly applied.

While it may be practically expedient to speak of student characteristics and institutional characteristics, the two sets of attributes are by no means independent. Student characteristics are potent determinants of institutional character. So, one might think of the ethos of colleges with high proportions of young "liberals," and institutions whose students are generally conservative and conventional; colleges with a large proportion of religiously oriented students and those with students who are for the most part nonreligious; colleges which attract students almost entirely from one denomination, and those in which students have diverse religious backgrounds; colleges which draw mainly from upper socioeconomic and cultural levels, and those whose students come principally from lower economic and cultural groups; and institutions which have large proportions of students intrinsically interested in ideas, and those in which students are predominantly pragmatic in orientation. Such student characteristics and backgrounds, when predominant in a student body, give a college a distinctive atmosphere. Student characteristics thus are themselves a part of the environment—perhaps a decisive aspect of institutional character (McConnell & Heist, 1959).

The problems of measuring student characteristics and describing college climates, of detecting the interaction of student and environmental variables, of assessing change or lack of it, of estimating the differential effects of institutions, and of identifying means of possible impact are highly complicated. Some of the research problems involved are discussed in the next chapter.

2

The Research Setting: A Diversity of Schools and Methods

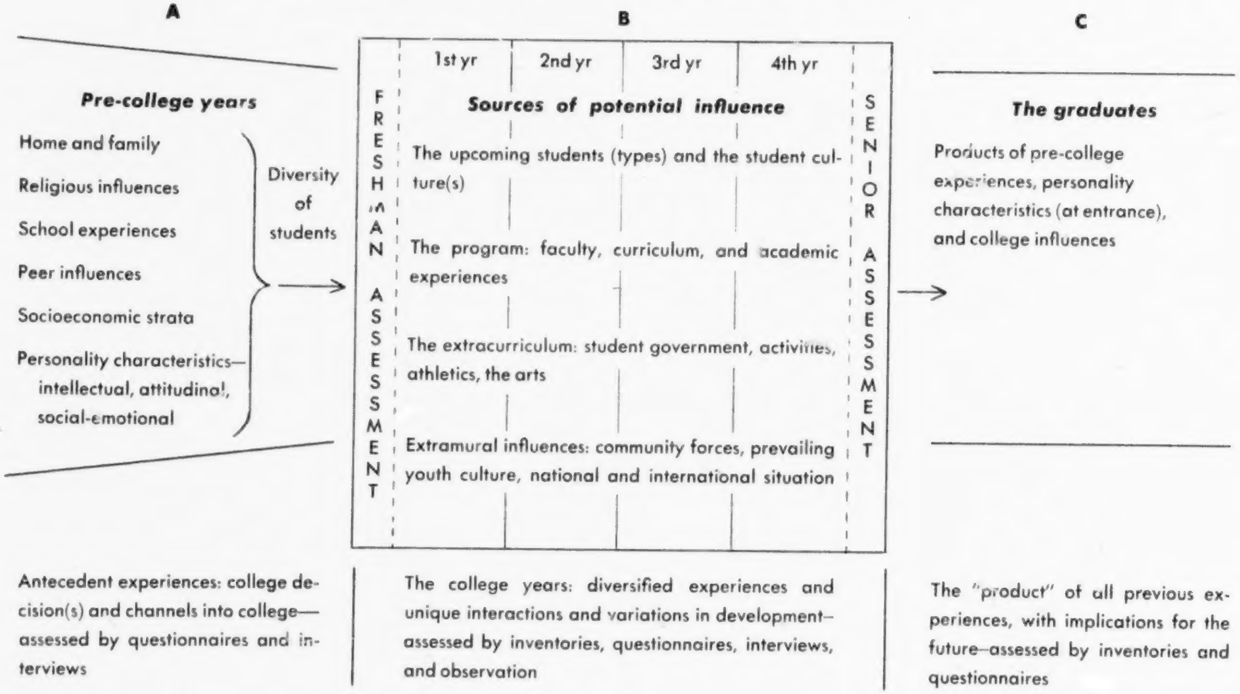
Early in the investigation, a model, sketched below in somewhat simplified form, was adopted as a general rationale for studying the effects of college experience on students' development.

The antecedent conditions (A) listed in the model (Chart 1), i.e., home and family, socioeconomic status, school experiences, peer group influences, religious background, and personality characteristics, are the "input" factors. The person's attributes, including his abilities, values, motives, personality traits, and career plans, are not only antecedent conditions, but also environmental characteristics (B), together with the faculty, the curriculum, the extracurriculum, extramural influences, etc. The outcomes (C) of particular concern, as noted earlier, were such personal qualities as intellectual orientation, flexibility, autonomy, values, attitudes, and aspirations. These outcomes probably have more to do with the individual's approach to learning and life than does his store of knowledge.

ASSESSING IMPACT

The assessment of college impact presents manifold research difficulties. An external observer's description of the environment may not correspond to what the effective environment is for any or all students. Students may perceive numerous aspects of the environment differently from the investigators, they may respond to some aspects of the environment and not to others, and they may associate themselves with certain peer groups rather than others that hold different normative values. It is also probable that

CHART 1. A MODEL FOR STUDYING THE EFFECTS OF COLLEGE EXPERIENCE


A
B
C
Pre-college years
Home and family
Religious influences
School experiences
Peer influences
Socioeconomic strata
Personality characteristics—intellectual, attitudinal, social-emotional
Diversity of students
FRESHMAN ASSESSMENT
1st yr
2nd yr
3rd yr
4th yr
Sources of potential influence
The upcoming students (types) and the student culture(s)
The program: faculty, curriculum, and academic experiences
The extracurriculum: student government, activities, athletics, the arts
Extramural influences: community forces, prevailing youth culture, national and international situation
SENIOR ASSESSMENT
The graduates
Products of pre-college experiences, personality characteristics (at entrance), and college influences
Antecedent experiences: college decision(s) and channels into college—assessed by questionnaires and interviews
The college years: diversified experiences and unique interactions and variations in development—assessed by inventories, questionnaires, interviews, and observation
The "product" of all previous experiences, with implications for the future—assessed by inventories and questionnaires

(After Heist)

environmental variables do not act singly, but in combination. (This is also true of student characteristics.) Thus, to make a precise estimate of effects, ideally one should sort out all the possible interactions of such factors as student characteristics, peer associations, student-faculty relationships, curricular and extracurricular influences, administrative arrangements, and a host of other possible environmental determinants, many of which do not lend themselves to reliable, objective assessments.

No attempt has been made in this study to make a quantitative assessment of environmental conditions or of institutional impact. In lieu of that, the best judgment of an interdisciplinary research staff has been used to explore various ways in which the institutions presumably affected the intellectual life of students.

Another difficulty in assessing the effects of college experience is that one cannot assume that changes which occur in students are attributable to the effect of the college environment per se. Studies of development in early adolescence have shown that certain kinds of growth take place normally within a wide range of environmental conditions; in order to alter the course and extent of development of some aspects of behavior, it would be necessary to introduce fairly great changes in environmental stimulation. Other phases of growth may be more responsive to less drastic or extensive changes in environmental stimuli.

It may be that measurable changes in student characteristics over the college years, such as those revealed in investigations like the present one, especially changes in central personality structure rather than in knowledge and skill, are not the product of college experience as such. Rather, they may be the result of the general impetus to development provided by previous experience, by conditioning factors to which the student is subjected outside the college environment, or by general environmental stimulation in which the college is only one and perhaps not even the most decisive element. Today's college or university is seldom isolated from the larger society, and therefore what appears at first glance to be attributable to the college may more properly be ascribed to elements of the broader environment.

In 1959, a sociologist, Barton, could say that no studies had been done with a control group to assess changes in college students. A decade later only a few studies had been reported which compared changes in students who did and did not go to college. One of these investigations (Trent & Medsker, 1968) ran concurrently with the present research and utilized some of the same personality scales and attitudinal questionnaires. Among the high school graduates in 16 communities across the United States, test-retest differences between 1959 and 1963 were secured for presumably comparable groups, one of which spent four years in college, and the other of which did not go to college at all. The groups were matched on scholastic aptitude, academic achievement in high school, scores on certain scales of the Omnibus Personality Inventory, and other variables. At the end of four years the college-going group made higher scores on the personality scales measuring a tendency toward reflective, abstract thought; interest in intellectual inquiry; tolerance for ambiguity; and nonauthoritarianism.

On the same scales, the scores of the high school graduates who did not go to college actually *decreased* significantly after four years. These results led the investigators to disagree with Jacob's (1956) contention that college makes little difference in students' values except to liberalize them slightly. At the same time, the results disagreed with the overly optimistic attitude that *extensive* attitudinal changes occur during the college years. "We suspect that this is true," said the investigators (Trent & Medsker, 1968), "only for those already disposed to change, and that college is more a facilitating rather than causal agency for this change." The distinction between a "facilitating" rather than "causal" influence would seem to be a doubtful one. One of the purposes of college surely is to stimulate development in a change-ready student.

The study of college and noncollege students summarized above did not compare changes of those who attended certain types of institutions or, for that matter, particular institutions. It is conceivable that some college environments stimulate no more change than noncollege environments. It is possible, too, that some college experiences may actually stifle change of certain characteristics in students who could have developed significantly in response to educational stimulants more appropriate to their needs.

One final comment on comparisons of change in college and noncollege groups is apropros. While the "exposed" and "nonexposed" groups supposedly may be matched on several variables, such as family background, high school achievement, extracurricular experiences, scholastic aptitude, and certain personality characteristics, they may not be comparable in decisive attributes. For example, although they may be relatively equal on a selected set of variables, the very fact that one group chooses to attend college while the other group does not may be evidence of a motivational factor which has not been identified and controlled. As time goes on, however, this deficiency in research methodology may be overcome.

Although the present study does not include a comparison of the development of college and noncollege populations, it does report an intensive investigation of differential changes in student characteristics in eight colleges and universities.

THE INSTITUTIONS

The eight institutions included in the present study were not chosen as being representative of American higher education as a whole, or of defined types of institutions. Nevertheless, they embraced a wide range of both student characteristics and institutional climates. Four of them–Antioch, Reed, Swarthmore, and San Francisco State–were studied fairly intensively; the other four–St. Olaf, the University of the Pacific, the University of Portland, and the University of California at Berkeley, less so.

Antioch, Reed, and Swarthmore ("elite" colleges) were highly, although not equally, productive institutions in educating future scholars, and were presumably indicative of the kinds of institutions which Jacob thought should have a decided impact on students. They were highly selective for academic ability–although again, not equally so–and were relatively small, residential institutions. Once connected with religious denominations, Antioch and Swarthmore have been independent of religious control for some time, although the Quaker tradition has lingered at Swarthmore to some extent.

These three colleges were selected not only for their high indices of productivity, but also because the research staff hypothesized that there might be significant differences between their student bodies in factors other than academic ability. Since there was also sufficient information to suggest that the three colleges differed in institutional characteristics, it was thought that future scholars might emerge from different complexes of personal and institutional qualities.

Two of the three church-related institutions in the sample had relatively close connections with the sponsoring denomination, in one case Lutheran (St. Olaf) and in the other case Catholic (University of Portland). The third, the University of the Pacific, was formally but not closely controlled by the Methodist Church. The three institutions differed greatly both in student bodies and in educational organization, St. Olaf being among the top 50 colleges in the Knapp and Greenbaum (1953) index of productivity for male scholars in the sciences, and the University f Portland and the University of the Pacific being somewhat complex organizations with a limited number of graduate curricula and professional divisions. Although the measured academic quality of the student bodies at the latter two institutions was not greatly disparate, their ethos differed markedly.

The sample was rounded out by two large public institutions, San Francisco State College and the University of California, which differed in formally professed purposes, in selectivity, and in organizational complexity. San Francisco State was beginning to undergo rapid change during the period of the investigation, which complicated not only the problem of institutional description but even more, the problem of inferring impact. The changes that were taking place nevertheless constituted in themselves a possibly significant aspect of the environment to which student groups might or might not respond.

The eight institutions studied are described at length in subsequent chapters; suffice it to say at this point that none of them, whether a liberal arts college with strictly limited purposes and programs, or a large and complex campus, should be thought of as all-of-a-piece. Even small institutions may have student subcultures that significantly influence the attitudes, values, and intellectual orientations of those who comprise them, and these smaller groups, through various means of interorganizational and interpersonal relationships, may extend their influence well beyond their own membership.

THE INSTRUMENTS

The data on student characteristics over time were derived from personality inventories, student and faculty questionnaires, student and faculty interviews, informal conversations, and observation of student life in varied campus settings.

Personality Scales

Since one of the major aspects of the investigation was concerned with changes in students' intellectual and emotional disposition, much time and effort was given at the outset to the construction of reliable and valid personality scales. These scales comprised what will hereafter be called the Omnibus Personality Inventory (Form C).* The development of the OPI, which involved the selection and refinement of scales used by other researchers as well as the construction of new ones, is fully described in Chapter V. For present purposes, the scales of major interest are listed below, each with a descriptive phrase which characterizes high scorers:

Thinking Introversion (TI): Liking for ideas, abstractions, and reflective thought.

Theoretical Orientation (TO): Interest in a logical, analytical, and critical approach to problems and in science and scientific processes.

Estheticism (Es): Interest in, and appreciation of, artistic and literary phenomena.

Complexity (Co): Tolerance of ambiguities and preference for novel and complex phenomena.

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*The OPI scale intercorrelations and reliabilities for the scales used in this study appear at the end of the chapter. The construction and validation of the scales is discussed in the ***Omnibus Personality Inventory–Research Manual*** (1962). For the revised OPI (Form F), see Heist et al. (1968).

Autonomy (Au): Intellectually and socially independent, nonjudgmental, and liberally oriented.

Religious Liberalism (RL): Religiously liberal rather than orthodox, skeptical rather than committed.

Social Introversion (SI): Socially withdrawn (but not alienated).

Impulse Expression (IE): Readiness to express impulses in thought or action, imaginatively active, sensually oriented.

Schizoid Functioning (SF): Socially alienated, with feelings of hostility and aggression.

Anxiety Level (AL): Unanxious and socially well adjusted.

Developmental Status (DS): Rebellious toward institutionalized authority, less authoritarian and freer to express impulses.

Social Maturity (SM): Nonauthoritarian, flexible, tolerant, independent, and nonpunitive.*

These scales were not entirely independent of one another, but the reliabilities were sufficiently high and the intercorrelations sufficiently low to permit each scale to contribute distinctively to an individual's profile. The correlations between the several scales and scholastic aptitude test scores were modest or negligible.

The TI, TO, Es, and Co scales were used to define intellectual orientation, and Au and RL were looked at together and in relation to these four scales. IE, SF, and SI more clearly involve the affective rather than the intellectual domain.

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*Not all scales appear in the several analyses in Chapters V and VI.

Student Questionnaires

The student questionnaire contained items concerned with such matters as family background; educational history, curricular and extracurricular; attitudes toward parents and perception of parents' attitudes toward education and vocation; educational values; educational plans and career expectations; attitudes concerning national and international affairs, civil liberties, and political, racial, and religious issues; leisure pursuits and "cultural sophistication."

Many of the items in the student questionnaire were taken from instruments used in other studies, especially in the Cornell study of values (Goldsen et al., 1960). This duplication will make it possible for research workers to compare students' responses in several settings. The items in the attitude, opinion, and value survey were for the most part traditional in character and therefore subject to the usual criticisms. However, there was enough overlapping of substance and sufficient variation in approach and procedure to make it possible to check one finding against another in some instances. The student questionnaire, for example, included items about religious orientations and values, the responses to which can be checked against those on the Religious Liberalism scale of the OPI. The consistency of responses on related items lends strength to conclusions about students' characteristics at entry and at graduation.

At Antioch, Reed, Swarthmore, and San Francisco State, the OPI and the student questionnaires were given to freshmen early in the fall of 1958, and again to those who remained until midyear in 1962-1963. Since the college had a five-year work-study program for most students, the Antioch seniors were tested in the spring of 1964. In the other four schools the sequence began in the fall of 1959, and was completed in 1963-1964.

Student Interviews

Student interviews touched largely on such matters as family and cultural background, including parental attitudes toward education; reasons for going to college and for choosing the one attended; educational values and purposes; vocational expectations;

evaluation of previous educational experience and early impressions of college experience; student and faculty associations; and differences between expectations and realizations.

The interviewees were asked what changes might have occurred in their attitudes toward family and home, as well as toward educational values and aspirations; how they would evaluate their college experience; and what changes had occurred in their religious, political, social, intellectual, and esthetic beliefs or values.

At the end of the fourth year, small groups of students who had previously been interviewed at Antioch, Reed, and Swarthmore were brought together to discuss student cultures and subcultures and other matters of interest to them or the research staff. The interviews were not held to gather data which could be subjected to systematic analysis, but rather to get a feeling for the climates of the institutions and to provide illustrative material.

Information about the faculty, the administration, and the campus was gathered over a period of four to five years. Visits of two to three weeks were made each year to Antioch, Reed, and Swarthmore by a sociologist and two psychologists, and a similar amount of time, less concentrated, was spent at San Francisco State. These visits provided valuable background through some participation in the life of the campus—the classroom, the faculty meeting, the committee meeting, the folk dance, the cocktail party. To secure further impressions of campus climates, informal discussions were held with faculty members and administrators in the first two years of the research; these informal approaches were followed in the last year by a brief questionnaire about faculty backgrounds and values. Periodicals and records were studied during the years of field research, particularly to grasp the historical development of the college. For example, the collection of minutes, papers, and memos set aside in an Antiochiana section of the Antioch College Library was studied intensively to discern the changes made in the college during the 1920s, a critical era, and to sense the trend of organizational development over the succeeding three decades. Field work of a similar kind—observation, interview, and document analysis—was also carried out at St. Olaf, University of the Pacific, University of Portland, and Berkeley, but on the limited basis of a few days each year. All the data are not reported in this volume.

THE RESEARCH TEAM

The research team represented several disciplines. It included psychologists, sociologists, and educationists, all of whom were involved in all phases of the investigation to varying degrees. Although each member of the team took particular responsibility for a specific phase of the project–sociologists, for example, were especially interested in organizational analysis, and psychologists were especially concerned with personality change–there was continuing interaction between members of the research group, and members of all the disciplines contributed to the design of the investigation, the preparation of instruments, the planning of interviews the analysis of data, and the interpretation of findings. Some important staff differences in theoretical orientation and methodological approach were resolved over time; the unresolved differences will be apparent to scholars. They will notice, for example, that Chapters VI and VII reflect differences in the treatment of data on change in student characteristics, and differences in relative emphasis on the individual and the group.

MAJOR CHARACTERISTICS OF THE STUDY

In summary, the following were among the major characteristics of the study:

All institutions were studied with a similar general research approach, and the same instruments were used throughout.

Variations in intellectual disposition within and between the institutions were emphasized, as were changes in students' intellectual orientation during their college years.

Personality characteristics were measured with more highly refined scales than ordinarily had been employed in studies of differential recruitment and individual development.

A wide spectrum of student attributes was investigated with a variety of instruments and other methods of data collection. The project also employed a multiform approach to the study of college environments.

Methods used to study student characteristics, faculty and student cultures, and organizational characteristics were both objective and subjective, or formal and informal.

OPI Scale Intercorrelations and Reliabilities (KR21)
for the Scales Used in this Study
(N = 2,390: College Freshmen in Normative Sample)

	TI	*TO*	*Es*	*Co*	*Au*	*RL*	*SI*	*IE*	*SF*	*AL*
TI	(.85)									
TO	.62	(.74)								
Es	.63	.22	(.80)							
Co	.51	.47	.42	(.71)						
Au	.42	.72	.25	.53	(.80)					
RL	.12	.29	.05	.28	.47	(.84)				
SI	-.15	.00	-.12	.01	.03	.13	(.85)			
IE	.09	.19	.17	.48	.34	.37	.02	(.85)		
SF	-.08	-.09	.14	.22	-.05	.10	.44	[illegible]	(.90)	
AL	.07	.15	-.15	-.09	.05	-.04	-.37	-.31	-.78	(.75)

3

The Eight Colleges

The variety of American colleges has long perplexed both domestic and foreign observers. What pattern is to be found among the institutions that claim to educate beyond the high school? They vary from huge, renowned urban universities to small unaccredited schools in the backwoods; from colleges militantly secular to those rigidly sectarian; from campuses open only to the brilliant to those which invite all. Some campuses known as universities offer little or no graduate work, while some labeled liberal arts colleges offer extensive graduate studies and give the doctorate. There are no colleges that typify American higher education. Faculty roles and student styles can best be understood by looking not only into leading institutions, but also into the second- and third-line state university, the large state college, the middle-rank liberal arts college, and increasingly, the junior college. The unplanned variation of American colleges and universities has resulted in an array of educational forms which may exhibit opposing trends and disparate social and cultural functions.

Among the liberal arts colleges, some have curricula which are simon-pure, untainted by practicality, while others are mainly committed to nursing, business, home economics, and engineering. Some private universities prepare undergraduates for Wall Street, Madison Avenue, and the President's Cabinet, while others train lawyers and businessmen for the home town and 50 miles around. There are junior colleges that are technical institutes and junior colleges that are finishing schools. Groups from which students are drawn vary from the general population of a city or state to the limited membership of a church, and from big city liberals to middle west farm constituencies. And there are other factors which produce fundamental differences: age accounts for the fact that some colleges embody values of the 19th century American scene in their character, while others of late vintage closely reflect the temper of modern times. The intellectual climate of a region, as of the South, often leaves a telling imprint. Large scale usually dictates a campus style different from that of small colleges.

The eight colleges of this study do not recapitulate this diversity, but they cover much ground. They reveal a range of educational environments and offer findings that characterize different types of colleges. The following vignettes provide some history, some of the tone and flavor of each of the colleges, as background for the detailed analyses that follow.

THREE PRIVATE COLLEGES*

Antioch

As this investigation began, Antioch was a leading private liberal arts college distinctive in its combination of high academic standards, special programs, community spirit, liberal politics, and experimental attitude. This character, a product of the previous four decades, differs radically from an earlier form.

Begun in 1863 by the Christian Church, directed by Horace Mann for its first six years, supported and fought over by Christians and Unitarians for the following half-century, this campus in the southwest corner of Ohio was, until 1920, one of the innumerable Midwestern colleges characterized by denominational attachment, financial weakness, local clientele, and obscurity. Small in staff and student body, Antioch was never far from the extended graveyard in which so many colleges in those years of western movement found a quiet and honorable burial. In the 1910s, the college operated on annual budgets of less than $10,000, with a staff of a dozen and a student body of one to two hundred.

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*For extended accounts of the character and development of these three colleges, see Clark (1970).

The Antioch bearing the seeds of the present one, the "second Antioch," emerged in 1919-1920 when, in a crisis of pending bankruptcy, the conservative but weary trustees handed the institution to Arthur E. Morgan, a successful water conservation engineer who later in the 1930s was to go forth to do battle in the new TVA.

The new president's philosophy centered on the development of the "whole man," and he intended Antioch to be an experiment in bringing together the practical and the intellectual through a varied but interrelated curriculum in which work and participation in the community would loom as large as classroom instruction. Bold in vision and charismatic, Morgan rapidly assembled a new board of trustees, brought in money, found a faculty willing to gamble on a new program, and recruited bright, serious students from throughout the country. During the 1920s, he and his followers established many of the present characteristics of the college. A viable format for a work-study program was well established by the end of the decade; generalists on the faculty and broad requirements in the curriculum spelled out a special conception of general education. Extensive participation in campus government by students as well as faculty was initiated as an ideal and made operative during the tenure of Morgan's successor, Algo Henderson (1936-1947). Antioch became nationally known as an experimental college, and its image of political liberalism and educational uniqueness attracted reformers and nonconformists. By the end of the '30s, the campus had a solid corps of True Believers dedicated to the proposition that the Antioch world was decisively superior to the world of less fortunate outsiders. At the beginning of the 1950s, men who had been recruited in the defining years of the "second Antioch" were still in key posts or had only recently retired.

For a small private liberal arts college of roughly one hundred faculty, secular Antioch provided a complicated system of learning. Its five-year program, unusual among leading colleges, was organized mainly around alternating periods of study and work. Under this on-again-off-again campus schedule, the college operated with a double student body, which at the time of the study totaled about 1200: two groups of students passed each other as one headed off-campus to work in the cities, and the other returned to fill the dormitories, classrooms, and cafeteria. Sometimes holding as many as nine different jobs in different communities during the undergraduate years, all students spent a part of their academic lives packing and running, cutting away from one set of obligations and moving, over the weekend, into another. The system was also complicated by an all-campus "Community Government" which incorporated administration, faculty, and students as a single constituency for certain campus matters. And this, along with the participation of students on faculty committees, not only assured the students some influence, but sometimes gave them the dominant voice. Community Government was the backbone of the Antioch conception of campus as community, and it was the college tradition that "CG" was as important as the classroom and the job.

The life of the student and the affairs of the college were made more complex by the civic consciousness and political participation that spilled over the boundaries of the campus. The professors and students of the 1920s, and particularly of the 1930s, were strongly in favor of progressive social legislation, and urged on by devotion to the ideals and forms of community government, engaged in political action off the campus. This tradition developed, and by the early 1960s Antioch was known throughout the country for petitions, pickets, and demonstrations, and for the kind of political action that is one man's liberalism and another man's radicalism. The off-campus political activities involved many students directly, became issues for discussion by nearly everyone, and were a major source of negative reputation and strain with outside groups.

Antioch had always been hospitable to the performing arts, and there was much activity inside and outside the curriculum in music, drama, and painting. There had also, since 1957, been an "Antioch Abroad" program, a plan whereby students studied and worked in a foreign country for nine to fifteen months, without the chaperons normally in attendance when American colleges send students abroad. The campus had no sororities or fraternities and the emphasis on sports was minimal.

Over the years the academic character of the "second Antioch" took the form of an extreme version of general undergraduate education, with stress on learning through work and community participation. But the increasingly marked trends of modern society toward advanced education and specialization put pressure on this established character, and as more students prepared for graduate school and more faculty became oriented to their special disciplines, the curriculum and the classroom moved toward dominance. The shift in interest of faculty and students toward conventional academic effort challenged the work program to prove its relevance for liberal education, and pulled some students and faculty from participation in campus civic affairs. This evolution toward the perspective of other leading liberal arts colleges had not, as of the early 1960s, fundamentally altered the unique features of the campus. Antioch seniors continued to get more than their share of Woodrow Wilson and Danforth Foundation fellowships for advanced study. But the pressure for the straight academic approach was at the center of the problem of how to adjust this particular liberal arts college to modern forces that more and more favored other structures and styles of higher learning.

During the '60s, Antioch continued to experiment educationally by introducing for some students an exploratory first year, extending the possibilities of student-initiated study both on the campus and in work periods, starting an interracial educational program, trying out an Afro-American Studies Institute, and establishing field centers in which faculty and students worked and studied 'on location." The more conventional academic approach to learning was challenged by greater emphasis on "problem-solving situations *(Report from the President,* 1970)."

Faculty members divided over these two approaches to learning, some asking for a return to formal academic programs, others insisting on a "reality," or problem-centered curriculum. There were strains, too, among faculty as well as students over the relation of the college to social action; Antioch students had long been active in protests in Yellow Springs and Dayton. Here the debate was on the issue of institutional nonpartisanship versus "official" college commitment or involvement in social reform. And Community Government, which for so long had meant joint participation by students, faculty, and administration, sometimes proved unable to resolve controversial issues without conflict. Antioch was a changing college during the '60s, with both excitement and a considerable degree of instability.

Reed

Long before its fiftieth birthday in 1962, Reed College had become a bright star in the academic heavens, and there were many, off-campus as well as on, who rated this college first in undergraduate achievement. Its students were known as bright and independent. Its blend of intellectuality and nonconformity had elicited colorful prose from those who described it as an "academic anarchy" that "produces more big brains than many big universities"; an "academic gadfly"; "a place that goes for beards, guitars, and sandals"; and "intellectually one of the nation's richest campuses (Castan, 1962; Neuberger, 1952; *TIME*, 1962)."

Reed started off on the academic high road the day it opened its doors in 1911. Encouraged by the General Education Board, an imposing foundation of the time, the first board of trustees decided that what the city of Portland, the state of Oregon, and the Pacific Northwest needed was a strong, pace-setting, nonsectarian liberal arts college.

The first president, William T. Foster, was sternly unhappy with the academic and social flabbiness of American colleges–including his own alma mater, Harvard–and beginning with a handpicked class of 50, he established ideals and practices at Reed that were to endure. There were to be no intercollegiate sports, no social life that would compete with the classroom (hence no sororities and fraternities), and no admission of weak and marginal students "on condition," a practice then customary even in the best schools. By establishing major hurdles in the form of an examination for entry into the senior year, and a senior-year thesis and oral examination, he helped to insure that the life of the student would be one of consistent and serious study. Foster (1911) wanted "a Johns Hopkins for undergraduates, the Balliol of America." And he and his successors did indeed create an all-honors college, with no hiding place for the student, gentleman or otherwise, who might be in search of an easy "C."

Reed's students came from the Pacific Northwest in the early years, with many commuting from Portland, and it was not until after World War II that students from California and the east formed the majority. Unlike Antioch and Swarthmore, both of which developed national recruitment on the way to prominence, Reed achieved prominence first with local students, and then reached out regionally and to some extent nationally. The Reed record of high academic "output"–Rhodes Scholars and future PhDs–was also attained without the substantial monies often considered necessary to academic success. The college's operating funds were drained in its first decade by inflation and land speculation and it quickly took up residence among the poor. As in most other money-starved colleges, existence was then subsidized, in addition to student tuition, by low faculty salaries and much turnover of assistant professors. What distinguished Reed was that it broke the correlation between poverty and mediocrity. The senior faculty of the 1920s and '30s held to the ideals established by Foster and his successor (Richard Scholz, 1921-1924), gradually elaborating and institutionalizing a rigorous curriculum. A few dozen devoted men proved that a record of excellence could be built on a financial shoestring. The name of the college through those years was persistence.

Many local citizens, however, confronted by the faculty in word and deed, had other names for the college–troublemaker, pacifist, radical–for President Foster and his associates, high-minded New Englanders eager to cleanse Portland of its sins, addressed themselves to the motion picture houses and even more corrupting dens of vice. And there were those at the college who were indeed pacifists, including the president, and also impatient political liberals, including such young men as sociologist William Ogburn and economist Paul Douglas, the latter then beginning a career that was to lead to the United States Senate.

As Reed's image of intellectuality and liberality snowballed, it increasingly attracted liberal professors and students, and gained repute for its strong faculty government and the freedom its students enjoyed. These characteristics persisted. Faculty protection of colleagues under political attack from the outside led to a major breach in relations with trustees and community in 1954. Student freedom, after World War II, moved toward a nonconformity distinctive in its ability to catch the eye and outrage adults. As early as the 1950s, "the Reed type" was defined by the individualistic intellectual who used a beard and bare feet to symbolize criticism of the prevailing social forms and personal detachment from them.

This small prideful campus, numbering 800 students and 80 faculty members at the time of this study, thus came to offer an intense and challenging life to those relatively few among the young who were attracted by the opportunity and qualified to seize it. Peers were bright, sophisticated, and motivated; the faculty was competent and exacting in the classroom; the curriculum was tightly structured and compelling, including a basic lecture-and-seminar course for all freshmen; and the freedom permitted outside the classroom called for unusual tolerance for a great variety of intellectual attitudes and styles of conduct.

But Reed began, in the 1950s, to suffer certain of the contingencies of academic success. Its reputation as a place for brainy boys brought freshman enrollment in the sciences to 50 percent, threatening the balance of the curriculum, particularly the status of the humanities. The commitment to research grew stronger, especially in the larger science departments. Most important, the students became increasingly oriented to graduate school, intensifying the strain between the ideals and methods of broad liberal education and those of specialized preparation for graduate training.

The activities of a minority of nonconformists have lent Reed its romantic images. Although students did continue their resistance to administrative policies they disliked, and made themselves heard on issues which activated college campuses, behind the mysteries of student individuality there still lay the original intent of uncompromising scholarship, albeit now shaped into the aim of producing students who would go on to higher degrees. This tight little academic island, self-isolated in a suburb of Portland, stubbornly pursued its original competence.

Swarthmore

One reason Swarthmore stands so high among American colleges and universities is that it early accepted the life of serious study. In the 1920s, they were few colleges indeed in which study was the major sport. Colleges were still drawing largely from local populations, the spirit of the times was kind to the collegiate version of the "good life," and graduate school deans and corporation recruiters were not yet major forces on the undergraduate campus.

The elective system was in control, reducing the pressures of the curriculum to the option of the student. It was a pleasant time to be in college—before The Crash of 1929, before World War II, and before undergraduates came to be regarded primarily as the future manpower of a technological society.

There are always reforming educators around, however, to worry about the state of educational affairs and attempt to spoil the fun. Among the reformers of the 1920s was Frank Aydelotte, a former Rhodes Scholar, who had Oxford firmly in mind when he assumed the presidency of Swarthmore in 1920. From the time the liberal Hicksite wing of the Quakers dedicated the college in 1864 to education "under the care of Friends," the school had led a sheltered if not always quiet life in a Philadelphia suburb. The fighting within the extended family over how close the care of the Friends should be sometimes got indelicate, but this was of little concern to the greater society. From its original state as a strictly guided Quaker community, the college evolved between 1890 and 1920 into a more worldly center of student life. It welcomed the glee club, the secret fraternity, and a football schedule so imposing as to drag the college into the sports scandals that were becoming a regular adjunct of American higher education. Meanwhile, as buildings got built and professors expanded their academic ambitions for the college, the Quaker social base remained firm. The college that Aydelotte inherited was not moribund. It was, he thought, a place with the resources and moral climate necessary for the reforms he had in mind.

The cutting edge and symbol of Swarthmore's forward leap in the '20s was the Honors Program, a modified Oxford scheme in which selected juniors and seniors were put on a special track of intensive seminars. Aydelotte plugged honors work so hard, in speeches and papers, that for a brief period Swarthmore virtually captured the "Honors' concept. Decades later, in the 1950s, as honors programs became more popular, Swarthmore was viewed as their pioneer. But the Honors Program was just one among many changes introduced in the '20s; Swarthmore's change in character was the sum of moves on different fronts.

The new president recruited students nationally and awarded generous scholarships to bright, serious students with apparent capacity for leadership. The staff and new students gradually but drastically modified social activities by eliminating freshman hazing, cutting down the number of dances and, in 1933, abolishing sororities. The administration and the faculty bought back control over athletics from alumni and students by shifting the support of sports from gate receipts to a college subsidy, and transformed the program of major intercollegiate sports into one of intramural and intercollegiate games for the amateur. Sports and social life, thus robbed of the financial incentives, alumni fervor, and student interest that ordinarily push them toward dominance, were subordinated to and integrated with the life of serious study then being moved front and center. Intellectuality became a virtue, with much of the excitement engendered by competition transferred to the winning of academic honor.

Over the years, the faculty changed substantially in number and character. It grew from its original 40 in 1920 to 100 in 1940, and improved markedly in scholarly quality. It was a change which required much more financial support, and the success of the 'Swarthmore Experiment" came to depend heavily on the president's ability to raise large sums of money. He turned to Abraham Flexner, secretary of the General Education Board and caustic critic of flabbiness in the American college, and was given large grants in 1929 and 1930 that fixed the Honors scheme as a permanent part of the college. Since then, the school has been financially secure, aided substantially by alumni successful in the business world.

The change in recruitment of students in the 1920s brought Swarthmore a healthy ratio of bright applicants, and as its reputation spread, it attracted applicants with increasingly higher levels of academic ability. In the late 1950s, the student body of 900 was close to or equal to the best in the nation. The college also acquired the reputation for having a friendly and lively student body, and bright students who were independent and nonconforming came to place it high on their list of college choices. Thus the college came to overlap such "progressive" or "experimental" colleges as Reed, Antioch, and Sarah Lawrence, while remaining for some students an alternative to Harvard, Princeton, Amherst, and Oberlin. The very good faculty and the very good student body, interacting within the forms and traditions begun in the 1920s, made

Swarthmore a very good place to go; highly respectable socially as well as intellectually, it nevertheless placed less weight on social position and sophistication than most leading private colleges in the east.

Part of the unusual character of Swarthmore lay in the subtleties of the surviving Quakerism. The college had evolved from denominational control to the point where it was rightly seen as a secular school. Yet Quakerism continued to play a part in the climate of the campus. Respect for inner conviction, low-key debate, the search for the unifying sense of the meeting–these sensitive and tolerant aspects of liberal Quaker thought were reflected in faculty meetings and administrative discussions. The tolerant religious morality put academic freedom beyond doubt. The Friends' commitment to social action was shared by enough members of the faculty to make itself felt by the students, who were encouraged to work with the American Friends Service Committee in the summer and to organize conferences on disarmament and civil rights in the winter.

Swarthmore students were not so bohemian or so radical as those at Reed, but they were intellectually independent. And a substantial number of nonconformists were quite willing to bait the administration on issues of educational program or social regulations. For example, in spite of administrative resistance, they early organized a series of peace conferences which extended over several years. A strong strain of anti-administrative attitude and behavior characterized the college during the present study and beyond.

Swarthmore, like Reed, had some features of the graduate school. Honors students were completely engaged in seminars and independent study for their last two years, and the final written and oral examinations, given by outside examiners, were often at what is normally considered the master's degree level. The faculty favored concentration over wide sampling of courses, and there was much emphasis on majors. The school had thus moved toward being a preprofessional preparatory school for an unusually able group of students. Sharing this condition with other leading liberal arts colleges, Swarthmore also shared the problem of redefining the liberal arts and reasserting the particular competence of the detached liberal arts college.

Antioch, Reed, and Swarthmore are among those which head the hundreds of small colleges that dot the private sector of higher education in the United States. For those who think colleges are best when they are nonsectarian, these three colleges are significant models. Their faculties are often envied by those who teach or want to teach in liberal arts colleges; the administrative problems that arise from their having to cope with demanding students are the problems that many another college would like to have. They are usually counted among the enviable colleges of the country.

For every independent liberal arts college, however, there are at least two which are closely church-affiliated. And those who think colleges are best when they are sectarian turn to the colleges of known religious affiliation that seek to combine religious values with general education or vocational training. The church-related liberal arts college is the oldest form of higher education in America, and while seriously challenged and often altered by modern secularism and the competition of public education, it remains an important segment of American higher education. St. Olaf (Lutheran), the University of the Pacific (Methodist), and the University of Portland (Catholic) are not only with us, but are likely to persist into the 21st century. These viable institutions are very different from Antioch, Reed, and Swarthmore. They are also very different from one another.

THREE CHURCH COLLEGES

St. Olaf

Odegaards, Eidsvolds, Thorkelsons, Christiansens, Larsens, and Larsons–the campus echoes to the names of Scandinavian Lutherans from the towns and farms of Minnesota and adjacent states. Located in the town of Northfield, below Minneapolis, St. Olaf sits in the heart of the area settled by Norwegians a century ago. In 1875, the institution was a preparatory school and college supported by a small private group of Norse Lutherans. With 50 to 125 students, a handful of professors, little money, and much bickering about its control and character, the college struggled for 25 years before it was adopted by what was then called the United

Norwegian Lutheran Church. The school then expanded rapidly to nearly 500 students, settled down as a church-controlled liberal arts college, and by World War I, drawing the sons and daughters of small businessmen and second-generation farmers, was safely out of its frontier days. A second burst of expansion in the 1920s, with annual church contributions running as high as $80,000, brought St. Olaf in ten years to the solid size of 1,000 students.

Both as a quasi-independent institution and as a church-owned college, St. Olaf related closely to the Norwegian constituency and evolved as the Norwegian community evolved. There were those in its early history who, favoring ancestors and heritage over the new ways of the New World, preferred to use the college as a device for building and protecting a "little Norway." But the dominant feeling was for acculturation, and although a concern for preserving the heritage for the young was not set aside, the college became an instrument for assimilation. It was necessary to use the Norwegian language for instruction in some subjects (religion and history) (Benson, 1949), but this stricture was gradually relaxed as the constituency changed. The college prepared teachers and ministers and otherwise turned the sons and daughters of Norse immigrant families into citizens who could move with some sophistication in the marketplace and the town meeting.

The Norwegian constituency remained Lutheran, however, and the religious commitment of the college remained a central characteristic. Initially, the statement of purpose spoke of preserving "the pupils in the true Christian faith, as taught by the Evangelical Lutheran Church (Benson, 1949, p.21)"; in the 1920s and 1930s, it pointed out that "the central and dominating thought of the college of our Church is to give a higher education under the influence of Christianity as taught in the Evangelical Lutheran Church (Benson, 1949, p.277)"; and in 1960, it reminded that "as a college of the Lutheran Church, [St. Olaf] is loyal to the beliefs and practices of this church. In its religious teaching it emphasizes specific Luther doctrines and traditions (*St. Olaf College Bulletin*, 1960, p.21)."

From the earliest days to the '60s, the students came from Lutheran families of the upper midwest. Ninety percent of the 1800 students enrolled at the time of this study were Lutheran, and

84 percent were from Minnesota, Wisconsin, Illinois, and Iowa, with over half from Minnesota. The administration sought Lutherans for the faculty, 50 percent of the faculty were graduates of the college, and at least as late as 1925, full professorships were extended only to Lutherans (Benson, 1949, p.231). With a tradition of common religion and common nationality, the campus was characterized by homogeneity.

St. Olaf also sought academic quality. Its reputation as perhaps the best of the Lutheran colleges helped attract good faculty and students from within the Lutheran consitutency. For young men fresh out of the graduate schools of the Universities of Minnesota and Wisconsin, who wished to teach in a small college, St. Olaf was an obvious choice. Its students were enough above the national average in ability to provide some challenge for the best minds in the faculty, and to include winners of scholarships and increasing numbers who went on to graduate school. St. Olaf placed in the top 20 colleges of the country for men in the humanities on the Knapp and Greenbaum (1953) index of the undergraduate origins of scholars. The college has had noted scholars in literature and history, and its chemistry department has been renowned since the 1920s. The strong music department is one of the largest on campus, and the world-famed St. Olaf Lutheran Choir has toured the country annually for more than 40 years. Located in the same town with small but prestigious Carleton College, St. Olaf wanted a parity of esteem in the tough league of quality-seeking colleges of which Carleton, Beloit, and Grinnell are members. And so the college moved somewhat toward research and the selection of faculty by the impersonal criteria of academic quality, and hence toward some secular cosmopolitans in the faculty who were interchangeable with men at Chicago, Berkeley, or Swarthmore.

But the central problem of the college was common to church colleges of quality: how to combine academic quality with a church commitment and how to handle strains that emerge between the academic interest and the religious interest. In search of quality, St. Olaf was somewhat restrained by its religious affiliation. It did not seek to recruit from the leading secondary schools of the nation–Newton, Scarsdale, Bronx High School of Science–for that was not where the Lutherans were. It was limited, therefore, to a more circumscribed basin than secular colleges generally avail themselves of in attempts to improve the student mix academically.

The continuing Lutheranism set some of the terms of scholarship for the campus as a whole, but not without a check, for the search for quality acted to limit the impact of the traditional Lutheran society. Bright young men in the faculty pushed for a more cosmopolitan and scholarly tone against, as one of them put it, the complacency of "a big, happy, sincere, honest, wholesome, healthy, devout, hardworking midwestern family, of Norwegian ancestry and Lutheran faith." Then, too, the college administration preferred autonomy from church control in the interests of protecting "the integrity and the individuality" of the campus. Certainly the administration had a strong talking point in the finances of the campus: Student tuition paid a large proportion of the educational costs.

Many of the brighter students were impatient with traditional doctrine. As the college tried, in a fast-changing scientific age, to make enlightened Lutherans out of religiously conservative rural youth, the newer norms of quality and individuality set up restless undercurrents around the religious foundation. And the men and women living close to one another in the campus community were not immune to the styles set by youth from the larger society.

The inherent strains of the college were reconciled by a staff that sought to embody an enlightened Lutheranism, a kind of Christian humanism. The atmosphere of the college, "buttoned-up" by the standards of an Antioch, was relatively open by the standards of church-related colleges. Academic freedom was secure. Liberal Lutherans found St. Olaf a rewarding place in which to work, and the non-Lutheran segment of the faculty found much to admire in the earnest and responsible attitudes of students and colleagues. The school's moderate tone helped to bridge discrepancies. *In loco parentis* and *in loco parish* tax a church college twice over, but the staff of St. Olaf had the strength and competence to administer the campus according to a largely independent set of norms and practices.

University of the Pacific

The College of the Pacific was for some time a provincial religious college whose academic marginality was hardly in doubt. Founded by Methodist Church leaders in 1851 on the heels of the Gold Rush and the admission of California to the Union, California's first chartered college was lost for some decades in the academic wilderness of the west coast. Always short of pocket money, the college wandered from Santa Clara to San Jose (1871) to Stockton (1924), searching for a homestead blessed with financial wells and not in the sight of the fast-expanding educational ranches of Stanford, Santa Clara, Berkeley, and San Jose. In the decade before the move to Stockton, the college managed to graduate only one student for every 17 enrolled, making it plain that it was operating, at best, as a junior college (Hunt, 1951).

With little more than hand-to-mouth financing, no one could predict its decent survival in the Bay Area. The ubiquitous General Education Board, asked for its opinion and its money, refused to help as long as the college remained so near its powerful competitors, and urged a move to Stockton, a hundred miles away in the interior San Joaquin Valley, "the center of the largest area in the United States having the largest high school population not served by any college in the vicinity (Hunt, 1951, p.137)." Shortly after the move was completed, the GEB gave the college a quarter of a million dollars, on a one-to-two matching basis, and a "whirlwind drive" for funds paid off the mortgage that had been mounting through the decades.

In its permanent Stockton location, College of the Pacific's famous president, Tully Knoles (1919-1947), developed a school tuned to the interests of its immediate area as well as to California-Nevada-Arizona constituencies of the Methodist Church. By 1950, it had more than 1,600 students and curricula in pharmacy, business administration, education, and engineering, in addition to the traditional array of departments in the humanities, social sciences, and natural sciences. A strong Conservatory of Music became a home for such composers as Howard H. Hanson and Roy Harris. Related to the local community, the church, and certain of the professions, the school aimed to combine the liberal arts with preparation for work, and to encourage "all students to discover and cultivate the religious realities vital to the effective growth and development of every individual (*Bulletin*, 1960-62, p.VI)."

With its religious commitment, its interest in character formation, its residence halls, and small size, College of the Pacific became the archetypical Christian college that many parents envisioned for their young. A staff committed to the role of *in loco parentis* and moderately conservative in religion and politics gave genuine meaning to administration rhetoric about the "Pacific family." Students lived on campus close to one another, the faculty, and the deans of students. From religious families, predominantly Methodist, their church affiliation was supported by the college with chapel exercises, a Department of Bible and Religious Education, an active campus YMCA-YWCA, and even an academic minor in "churchmanship training."

The middle-class students who came to the campus developed an active social life centered in sororities and fraternities, and College of the Pacific became a byword in the sporting news of the nation when Amos Alonzo Stagg, after 40 years at Chicago, became coach in 1933 and initiated a quarter of a century of prowess in football. He and his successor had players of the calibre of Eddie LeBaron to take on major universities and fill the stadium, and in 1949 this small campus ranked among the top ten football powers of the nation.

Endowment remained meager, however, and the college was forced to rely heavily on tuition, gifts, and faculty willingness to accept low salaries. In order to be eligible for money from the local school district and the State Board of Education, the college operated a junior college for local students from 1935 until the program became separated in 1951 as the Stockton Junior College. Neither bankrupt nor affluent, College of the Pacific owed its existence, after World War II, to a few private donors and backers in the city of Stockton, and to the two church conferences which dominated the board of trustees.

Like so many other church-connected colleges, the institution was also short of the capital of academic prestige, and the more critical faculty members complained of its being "too social.'' Because the students tended to be average in ability and motivation, young professors looking for challenge were likely to move on. As the pace of change in American education quickened in the late 1950s, the college re-examined its commitments, moved toward a change in role, and in 1960, under President Norman Burns, initiated a number of changes.

Sports were de-emphasized. A long-range plan was announced for creating a cluster of small colleges in the "Oxford style" around the traditional campus. Two of these selective units, each with about 200 students, were soon under way (Raymond College in 1962, and Covell College in 1963), adding more students and faculty who were strictly interested in ideas and books. The college expanded its graduate studies, adopted a San Francisco medical and dental school, and became the University of the Pacific. Its stated purpose became: "Our rightful emphasis lies in pursuit of the academic.'

Thus the school reached a stage, in the early 1960s, where the concern for academic values began to contend vigorously with the religious and social values inherent in the old College of the Pacific. The expansion of professional schools, appropriate to a university, blurred the focus on the liberal education of the undergraduate which had been embodied in the original college (although the liberal arts again became dominant in the cluster colleges). The new young student intellectuals in the cluster colleges became a subculture apart from the way of life found in the sororities and fraternities. The University of the Pacific was an institution in motion whose future shape was not yet clear. The present research portrays the school immediately before the changes in organization and expansion of the institution began to take effect.

University of Portland

A priest chatting informally with two or three students was a familiar sight on the paths of the campus of the University of Portland at the time of the study. The campus had much of the friendliness of a small traditional college, despite its university name, its organization into colleges and schools, and its graduate studies. A common religious faith helped knit a good share of the

1800 students and 125 faculty, providing more of the atmosphere of a big family than the bustle and anonymity of a major university.

Originally an elementary and secondary school for Catholic boys, the school passed from local hands, in 1902, to the control of the Priests and Brothers of the Congregation of Holy Cross (C.S.C.), which operates the University of Notre Dame. The order developed a college on top of the high school, awarded its first diplomas in 1929, gained accreditation in 1934, and then split the college from the secondary school and adopted the present name. After some years of giving graduate courses in the summers, as an extension service of Notre Dame, the campus began in 1946 to offer its own regular graduate work. Curricula toward the master's degree were developed in several fields and toward the doctoral degree in two (psychology and education). The college also became coeducational in all departments in 1951, unusual for a Catholic school, and added women's dormitories a few years later.

Only four miles from downtown Portland, on heights overlooking the Willamette River, the university served Portland as a municipal university, a role to which private colleges in cities often fall heir in the absence of appropriate public institutions. Most students commuted from home and many worked to pay the modest tuition. In addition to offering courses in science and the liberal arts, the institution developed colleges and schools of Business Administration, Engineering, Education, Nursing, and Music, and offered extensive part-time studies, especially in business. It built and maintained a major clinical program in psychology and developed its natural sciences. Graduate students, numbering over three hundred, comprised about one-fifth of the student body. The campus also invested sufficiently in basketball that prowess in this sport became a distinctive part of its reputation. The campus became Portland's largest site of higher education by the late 1940s, serving not only the Portland commuters, but substantial numbers of students in residence, drawn largely from Oregon and Washington.

The university's role in its home city was insecure, however, and not destined to last. In the 1950s, the state of Oregon began to expand Portland State College, located in the heart of the city. Aided by tax funds and low student costs, the state college rapidly outdistanced the University of Portland both in enrollment and in the attractiveness of its curricula to local students. The university's weak financial base contributed to the problem. Possessing neither endowment nor money from the church, student tuition had been its main source of income, and there had therefore been compelling economic reasons for maintaining a student body of appropriate size. Not high enough in prestige to be able to risk high tuition, the university had to initiate a major effort in planning, recruitment, and dormitory construction, designed to draw students from a larger geographic zone and to shift the emphasis from commuting to boarding. By the mid-'60s nearly half of the undergraduates lived on campus.

Catholic control and the influence of Catholic doctrine at Portland were insured by the composition of the administration and the faculty. Men of the Holy Cross Order, usually on rotation from positions elsewhere in the order, occupied the central administrative posts, from president to dean. Priests numbered one-third of the faculty, lived on campus, and were dominant in the senior faculty. Their efforts were a model of dedication and sacrifice, and constituted so imposing a labor endowment that their personal example encouraged some of the lay Catholic faculty to work partly for the love of God, accepting lower salaries than they would in other places of work. The non-Catholic professors, nearly one-third of the faculty, wielded some power through the few academic cosmopolitans whose prestige gave them leverage in institutional decisionmaking. The university rounded out its teaching with a relatively large staff (about one-fifth of the faculty), who came in from the community to teach part time, and who remained non-tenured and marginal in campus affairs.

The university intended that intellectual virtues be fused with Catholic morality and theology. "Being Catholic means that a school is founded upon absolutes. . . . [The] absolutes constitute the extra, the over-and-above of Catholic higher education. Based on such absolutes, the objective of Catholic higher education became two-fold: to provide a place which, in addition to the development of the intellectual virtues, developed the moral and theological virtues, a place which begot intellectual development within the doctrinal framework of Catholicism (O'Brien, 1963)." Toward the end of further developing the religious perspective of the young, the Catholic students who comprised about 80 percent of the undergraduate enrollment were required to take sequential courses in theology and philosophy taught by priests. Catholic students in the College of Liberal Arts took six courses in Religion (Old Testament, New Testament, The Theology of God, The Incarnation and Grace, The Contemporary Church, The Christian Moral Ideal) and six courses in Scholastic Philosophy (Logic, Critique of Knowledge, Metaphysics, Philosophy of God, Philosophical Psychology, and Ethics). A strong religious orientation was the campus's foremost characteristic, defining much of the curriculum and setting the framework within which the evolution of academic interests had to move.

In the early 1960s, the University of Portland was both tradition-oriented and in flux. The religious commitment remained firm, but the secular role of the university was evolving as the administration sought to insure the future by developing a more extended constituency and a campus climate appropriate to ferment and change.

St. Olaf, the University of the Pacific, and the University of Portland are a fair representation of the more religious private colleges, and together with Antioch, Reed, and Swarthmore, offer a look at the private sector of American higher education, especially that composed of the small colleges. The smaller private institutions are, however, considerably threatened by the public colleges and universities that have been increasing so rapidly in number and size. The public institutions are an evermore important segment–and San Francisco State College and the University of California at Berkeley are good instances of the modern massive approach to higher learning.

TWO LARGE PUBLIC INSTITUTIONS

San Francisco State College

Among the many differences between the east coast and the west coast in the United States is the weight of the private and public sectors in higher education. In the east, where the private institutions have traditionally towered over the public ones, a good deal of anxiety has been generated by the desirability of being admitted into the relatively small and highly selective private universities and colleges to which so many feel called and so few are elected. But the "admissions crisis" diminishes with every step westward. And in the far west, those who go to college go mainly to public institutions.

Few in California panic about not qualifying for the Ivy League, and only a small proportion is interested in qualifying for the private institutions of the west coast. A few consider Reed or Pomona or Mills; more are interested in Stanford or the University of Southern California, but hardly on the premise that they are a world apart from "Cal" or UCLA. For most students in California, the expected and even desired route leads to the doors of one of the seemingly endless public colleges. Moving within a tripartite structure of junior colleges, state colleges, and campuses of the state university, thousands find their way as entering freshmen, or as sophomores and juniors transferring from junior colleges to the state college located in San Francisco. Those who wish to understand higher education in the United States could well begin with San Francisco State College–large, urban, inexpensive, fast changing, volatile, a mirror of many and often conflicting modern values and forces (Orrick, 1969; Riesman & Jencks, 1962).

By 1960, with 7,500 full-time and 4,000 part-time students, San Francisco State was the third largest of the 14 state colleges in California, and far along in the evolutionary pattern whereby normal schools become universities. It began as a Normal School in 1899, and became a "State Teachers College" in 1921. By 1930, the teacher training program had been lengthened to four years and the college was giving a bachelor's degree. During the 1930s, other majors than education emerged, and men began to appear in significant numbers, accounting for one-fourth of the enrollment in the '30s and over one-half after World War II. The enlarged and diversified use of the campus was codified in 1935 when "Teachers" was dropped from its name and it became San Francisco State College.

The school, then in downtown San Francisco, was still relatively small, with 1,500 students in the mid-'30s, and 1,200 in 1945. From that point, however, growth was explosive. Five thousand students were enrolled in 1950, 7,500 in 1955, and over

11,000 in 1960. The faculty expanded from less than 100 in 1945 to 300 in 1950, and 600 in 1960. By 1969, total enrollment had grown to about 18,000, and the total faculty to 1,200. Teacher education became a smaller and smaller part of the whole. In 1935, nine out of ten students were majoring in education; by the time the present study began, only one in three of all students enrolled was preparing to teach, although the proportion among graduating seniors approximated two out of three. Other applied fields, particularly business, grew rapidly, and the liberal arts were strengthened. The college became especially distinguished in the creative arts. In 1954 the college moved from its crowded downtown location to 92 acres that were then in the suburbs, but are now a part of the city.

Until the 1950s, the state colleges of California had relatively low admissions requirements, and rejected few applicants. Then a trend toward selection set in. The growing bands of liberal arts professors preferred higher standards; the state board of trustees, in line with the temper of the times, also came out for higher standards of admissions and work; and a state Master Plan, in 1960, enunciated the principle that only the top third of high school graduates should qualify for the state colleges, and that there should be more diversion of students to the two-year junior colleges. With this, San Francisco State became modestly selective, an institution for which a "C" average in high school was not enough. Although a state college in name, it had become formally more selective than many state universities.

Throughout its history, the students of the college have lived off-campus and commuted; during the present study most students were driving cars from their parents' homes or their own apartments in the six counties around the San Francisco Bay, or riding the streetcar for 30 to 45 minutes. Many of the students were married, had families of their own, and worked part time. They typified the modern pattern of prolonged academic careers (Eckland, 1964), and may have taken a full-time load of academic work one semester, a part-time load another semester, dropped out entirely for six months, and taken as long as five to ten years to achieve their educational goals. The students' dropping-out and dropping-in, and the withdrawals of those who never returned, reduced the proportion of those who completed college in four consecutive years to as low as 10 to 20 percent. With so many stretching out their student careers, San Francisco State College students were older than students in selective private colleges.

The majority of the students were also enrolled in the "practical" majors that presumably led to clearly defined futures. San Francisco State had little of the collegiate spirit and spectator sports of the University of California (Berkeley), Stanford, San Jose State College, and the University of San Francisco (Catholic), all of which have used the football stadium or the basketball palace as foundations for a subculture of fun, sports, and alumni nostalgia. After the vocationally oriented students at State came the serious academics, hoping for graduate school and the higher degree, and a group in music, art, poetry, and drama, who aspired to the arts and connected to the cultural life of the city. The fine arts drew a distinctive group of faculty members and students.

Strong in the creative arts to the point of having achieved national renown and attraction, and with rapidly developing academic respectability in the natural sciences, the social sciences, and the humanities, San Francisco State was moving quickly from the design of a four-year state college to that of an urban public university. Well over half of the faculty held the doctorate, graduate training was moving past the master's degree and into the domain of the doctorate (with a degree given jointly with the University of California), research was being encouraged, and federal funds were increasing. The intention of state legislators and planners (and the University of California) had been to maintain a division of labor between the state university and the state colleges, one that would keep most faculty at San Francisco State out of research and little involved in doctoral training. A series of state plans in 1948, 1955, 1957, and the Master Plan of 1960 expressed this intention, and the legislature time and again struck research monies from the budget of the state colleges. But the thrust of the evolution of San Francisco State College was strongly to the contrary; it converged toward the university model as more scholars and scientists were added to the faculty, the graduate program was elaborated, and research monies were obtained from federal sources. Yet at the same time the college became known as an innovative institution. It had the first student-dominated experimental college and was one of the first institutions to conduct community action programs.

Complex and rapidly evolving, San Francisco State College entertained the gamut of faculty points of view and student life styles. Rapid change led to a degree of instability and strain. Some faculty members were restless and even resentful under the limitations on the college imposed by the Master Plan for Higher Education in California and by the trustees and chancellor of the state college system. A period of strong college administration was followed by a lack of central leadership and clearcut allocation of responsibilities. The faculty, already diverse in educational orientation, was fractured by competing faculty associations–five of them vying for membership and influence. There was a large part-time faculty. There was an infusion of radical, or at least activist students, especially in the social sciences, the humanities, and the fine arts. All this made the future character of the college hard to forecast. For an account of the turbulence that erupted at the end of the decade, see Orrick (1969).

University of California, Berkeley

The University of California, sometimes known as the General Motors of American higher education, is a giant among the universities of the world. Created and supported by the state of California, "UC" is composed of nine campuses of which the one located in Berkeley, across the bay from San Francisco, is the oldest, largest, and most renowned. Since its other campuses were few and small, Berkeley *was* the University of California until after World War II, and there are still those from afar who confuse the part with the whole, and a happy few on the Berkeley campus who think the mistake expresses something close to the truth.

Berkeley is itself a giant, a true multiversity (Kerr, 1963), but it was not always so. Created in 1868 by an act of the state legislature as California's land grant institution, the university opened with a faculty of 10 and a student body of 38. Broadly chartered from the beginning as more than an agricultural and mechanical college, the school's character remained open to public debate. Sharp political controversy helped to produce seven presidents in the first three decades, with terms of from two to seven years, as interest groups within and outside the campus struggled to define its role. The first president (Henry Durant) lasted two years. The second president, Daniel Coit Gilman, straight from Yale and favoring a comprehensive university program, found himself battling powerful outside forces which favored a heavy emphasis on agriculture—the Grangers, who had much strength among the farmers, and Henry George, who had his pen and the *San Francisco Daily Evening Post.* It was as much push as pull that took this promising president back east in 1875, after only three years, to head the Johns Hopkins University, where his talents established his name as one of the great college presidents of American higher education.

The Berkeley campus grew steadily to 150 faculty and 2,200 students by the turn of the century, a size surpassed only by such major universities as Harvard, Michigan, Minnesota, and Columbia. The campus lacked many amenities of the leading eastern universities, but the students rapidly found their way to the fast-emerging collegiate life. Quoits, which "was for some time in the early years the favorite out-door game (Ferrier, 1930, p.623)," surrendered to football in the 1880s, and out of an intense public rivalry established with the new Stanford University in the 1890s, there developed games so bloody that the two universities switched to rugby for a number of years in the early 1900s. What the undergraduates and the alumni had in mind as the model of university life was finally and concretely expressed in the building of a 73,000-seat football stadium in 1923. As elsewhere, the tendency was strong to give the undergraduates and the alumni what they wanted, in exchange for the public support that would give the administration and faculty what *they* wanted.

What the administration and faculty wanted after the turn of the century was a great university. Under Benjamin Ide Wheeler (1899-1919), Berkeley moved to academic prominence. Wheeler spurred Californians both in and out of the legislature to view their university with ambition and pride: "The State of California and all Californians are known to want the best things. They are never satisfied with anything that is second-class or behind the times (Ferrier, 1930, p.444)." He recruited widely and well, and by the end of his term the school's accomplishments in research had gained substantial momentum. The graduate school, gaining rapidly in quality and prestige after World War I, went on to an enrollment of over 2,000 before the 1920s were out, providing a broad base of support and attraction for research-minded faculty. In recruiting strong academicians the president also, as a by-product, built a faculty intolerant of autocracy, and after Wheeler left the presidency, a "Faculty Revolt," in 1920, led to the establishment of strong faculty government.

The strengthening of the faculty, the growth of the student body, and the building of institutional reputation continued steadily through the succeeding decades, with credit shared by the faculty and Robert Gordon Sproul, whose long tenure as president (1930-1958) spanned the years during which the campus arrived at the summit of scientific research. Various rankings of graduate departments of the country's universities placed Berkeley high. It emerged as the "best balanced distinguished university in the country" in 1966 (ACE, 1934; Cartter, 1966; Hughes, 1925; and Keniston, 1957). Meanwhile, the students continued to develop patterns markedly distinct from the faculty model of scholarship and research, and for decades a strong fraternity and sorority system was the dominant model of student behavior.

By the early 1960s the Berkeley campus had expanded to the 27,500 students that the university hoped to maintain as a limit. The enrollment was divided approximately into 9,000 graduate students and 18,000 undergraduates, taught by over 1,600 "officers of instruction" and 1,200 teaching assistants. The campus was subdivided into 15 major colleges and schools, such as the College of Letters and Science, College of Engineering, School of Social Welfare, and School of Public Health; 70-odd departments, including Poultry Husbandry, Romance Philology, Food Technology, and Naval Architecture; and over 50 institutes, centers, and laboratories, some with research funds in the millions of dollars.

The larger departments and professional schools, with more than 50 professors on the staff, were each the size of a small liberal arts college. Complex in its own composition, a large department sometimes contained five, six, or more significant subspecialties. Since professors work on different schedules of teaching, research, committee service, and outside consulting, a new faculty member could be on the scene several years before he chanced upon all his departmental colleagues. The number and variety of subunits, the foci of diverging specialists, reflected the numerous bodies of specialized knowledge for which the modern university is responsible.

The faculties of the departments were diverse and the students were various. Four out of five of the Berkeley undergraduates came from within California; nearly all were from the upper one-eighth of their high school classes in academic achievement. [There was actually greater variability than this suggests. In a recent freshman class, scores on the School and College Ability Test fell between the 68th and 93rd percentiles of the nationwide norms (Mock & Yonge, 1969).] Beyond that initial commonality, however, there was little else that characterized the vast majority of the students. Although a considerable number had come from hundreds of miles away to live on or near campus, many were commuters from around the San Francisco area. In purpose, some students attempted to combine an increasing amount of serious study with the fun that is essential to the best days of our lives; some were dons, closely modeling themselves after the scholarly professors; some were vocational trainees, looking neither to the right nor to the left as they pursued job skills and certificates; and some were students who found their way to Berkeley to act out nonconformance in the dens of would-be writers and artists, and participate in the small activist groups whose strident oratory, picketing, and disruption have given Berkeley its reputation for radical political action. And as at any large public college, there were also some who were on campus for no good reason at all, carried along on the wave that brought so many others because "going to college" involved less of a decision than stepping off the educational escalator. A rich, complex, often turbulent environment, the University of California at Berkeley was composed of many student subcultures in search of a campus.

That the student body at Berkeley should have had many purposes and diverse styles was in line with the institution's variety of modes and goals. The official organization was, primarily, a center of graduate training, preparing experts for a wide array of scholarly disciplines and professional and near-professional fields; an imposing center of research, including both the lone scholar who needs only his own imagination and a pencil, and the scientist who requires millions of dollars, a mammoth laboratory, and a team of researchers; a center of service and advice to industry and government; a major site on the west coast for the arts and the intellectual life; *and* a place for undergraduate education.

It is the university's many roles, particularly its research role, which draw the brilliant men and women whose reputations give the institution world renown. But they also divert the faculty from the undergraduate, with the consequence that the great multiversity suffers from "the cruel paradox that a superior faculty results in an inferior concern for undergraduate teaching. . .(Kerr, 1963, p.65)."

Berkeley is an extreme expression of the massive American public university. For the limited number of undergraduates who find their way to the knee or laboratory of a leading scholar and into a cluster of bright peers, the intellectual experience can be second to none. For others who fill the seats of the large lecture halls, impersonality may wall them off from the unusual resources the university has to offer and from the interactions with faculty they had expected, contributing to the general discontent so strikingly expressed in the student rebellion (Free Speech Movement) of 1964-65.

Eight colleges, eight different histories. The private and public origins of these institutions, the environments in which they struggled for viability, the staffs they had recruited, all set basic differences in the characters of the colleges. Among the critical differences were their freshman classes. The next chapter discusses students' families and social backgrounds, and the paths of entry into college.

4

Channels of Entry

The United States contrasts sharply with most other advanced countries in the way that young people are distributed to colleges. Other societies allocate by plan and formula to a considerable extent, steering students to different types of institutions by systematic national standards of examination and academic performance. In the United States, the steering is largely uncoordinated, indirect, and problematic. A highly decentralized assortment of public and private colleges operates much like a free market of competitive firms and self-selecting clienteles. Since the complicated distribution allows for much institutional maneuvering and individual choice, it is difficult to account for the appearance of certain students at the doors of one college rather than another. Some students get to their colleges through blind luck–or blindfolded misfortune. Yet all is not happenstance; the eight freshman classes in the institutions described in the preceding chapter did not form through accident. They were pushed and pulled–pushed by personal background and pulled by characteristics of the colleges–in such a way that the colleges ended up with different kinds of student bodies.

This chapter turns first to the push of personal background, particularly to those inclinations established within the family. Families of different cultural sophistication and religion contribute to the college population sons and daughters with different degrees of sophistication and different kinds of motivation and attitudes. The social bases of freshman characteristics will be analyzed by grouping together the freshman classes of the eight colleges and considering the aggregate as a college-going population within which certain strong relations appear between family background and student characteristics. Since individual colleges draw different mixes of these sons and daughters as they tap different social segments in society, the second half of the chapter considers how the eight colleges reach into the college-going population to obtain particular students, and in general, to attract about what they deserve. Several major patterns of institutional reach are identified that help explain the markedly different freshman classes found in the fall of the year at the different colleges.

THE FAMILY AND THE FRESHMAN

The Climate of the Home

The college-going population differs considerably from the general population, it has long been known, in social class composition. High social origins mean much college entry; low social origins, little college entry (Table 1). In 1960, for example, 85 percent of the sons of upper class and upper middle-class families went to college, compared with 10 percent of the sons of the "lower-lower" class (the lower 20 percent of the general population). Considerable separation by social background at the point of college entrance still obtains.

Table 1

COLLEGE ENTRANCE BY SOCIAL CLASS (1920-1960), IN PERCENTAGES

		Percentages Entering College						
Social Class	*Percentage in general population*	*1920*	*1940*	*1948*	*1958*		*1960*	
				Males	*Males*	*Females*	*Males*	*Females*
Upper and Upper-middle	10	40	80	80	75	70	85	70
Lower-middle	30	10	20	50	45	32	55	35
Upper-lower	40	2	5	15	20	17	25	18
Lower-lower	20	0	0	6	6	0	10	5

Source: Havighurst (1961, pp. 120-143).

Yet the main historical trend is one of increased participation in higher education by all social classes. Families of modest-to-marginal income (the lower part of the vast middle class and the upper part of the lower class) have benefited measurably from the democratization of American higher education, especially since the end of World War II. As can be seen in Table 1, the proportion of the lower middle class entering college at least doubled between 1940 and 1960 (20 percent of men and women combined in 1940; 55 percent of the men and 35 percent of the women in 1960), and the proportion of the upper lower class entering college increased at least fourfold in the same period (5 percent of men and women combined in 1940; 25 percent of the men and 18 percent of the women in 1960). The result is an evermore heterogeneous college-going population, one diverse in social background and in the personal characteristics produced by their origins in society.

Educational Resources of the Home

Within the limits of the college-going population defined by the eight colleges of this study, there are wide differences between students in the emphasis placed by the family on higher education (as perceived and reported by the freshman student). Families of high socioeconomic status place more stress on higher education than do families of the lower classes. When social status is measured by father's income, occupation, or education, or all three combined, considerable difference appears in the importance to parents of the son or daughter graduating from college and in the parental expectation that all the children will go to college (Table 2).

The emphasis on college also varies greatly by the educational resources of the family. A simple index of the educational-cultural atmosphere of the home was constructed from three bits of information: the number of books in the home; father's education; and grandfather's education (to indicate the generational depth of higher levels of education). The highly culturally sophisticated families placed more stress on the importance of being educated than did the families of low sophistication (Table 3).

Table 2

STRESS ON HIGHER EDUCATION BY FAMILY SOCIOECONOMIC STATUS, IN PERCENTAGES

		Stress on Higher Education	
Socioeconomic Status		*Extremely important to father that student graduate from college*	*High expectation in family that all siblings will go to college*
SES Index (education, income, and occupation combined)			
Very high	(N=606)*	69	66
High	(N=1433)	60	65
Medium	(N=1854)	52	49
Low	(N=1195)	45	42
Very low	(N=559)	37	39
Father's education			
High	(N=1213)	66	81
Medium	(N=2155)	56	73
Low	(N=2322)	43	54
Father's income			
Very high	(N=220)	64	85
High	(N=733)	65	80
Medium	(N=2040)	57	73
Low	(N=2480)	48	59
Very low	(N=193)	30	45
Father's occupation			
Professional & Semiprofessional	(N=1628)	61	77
Managerial	(N=1214)	56	72
Self-employed businessman	(N=1212)	51	70
Low white collar and self-employed farmer	(N=780)	47	58
Skilled, semi-skilled and unskilled worker	(N=832)	42	47

*Ns throughout all tables are indicated by parentheses.

Table 3

STRESS ON HIGHER EDUCATION BY FAMILY CULTURAL SOPHISTICATION, IN PERCENTAGES

		Stress on Higher Education	
Family Cultural Sophistication		*Extremely important to father that student graduate from college*	*High expectation in family that all siblings will go to college*
Very high	(N=171)	73	82
High	(N=1357)	63	80
Medium	(N=1535)	54	72
Low	(N=1922)	48	62
Very low	(N=771)	39	43

What does the educational climate of the family mean for the personal characteristics of the student? Students from families of high sophistication tend to have the following characteristics (Table 4):

- They are motivated and self-assured about college. They consider college very important, and think they will graduate.

- They are ready for a college education. They are culturally sophisticated, have high aptitude, and little interest in teenage popular culture–reading popular magazines and listening to popular music.

- They believe that a liberal education is more important than job preparation during the undergraduate years. They stay away from the applied fields and choose to major in a liberal arts discipline. They plan to continue their education after the bachelor's degree and often have graduate school (rather than professional school) in mind.

- They aspire to the highest of the professions (medicine, dentistry, law, ministry, college professor, researcher) and not the mass, lower-status professions of engineering and school teaching.

- They are not deeply religious.

- They are politically liberal and independent. They are strongly in favor of civil liberties, strongly disapprove of the methods of the late Senator Joseph McCarthy, and believe there is too much conformity among American college students.

For most of these characteristics of the freshmen, family income shows a pattern similar to the relationship that holds for the family's educational background. Students from high income families are, for example, inclined toward a liberal education, aspire to the high-status professions, are not deeply religious, and hold liberal attitudes on civil liberties and conformity. The family's educational level, however, is a somewhat better predictor than family income. When family income is held constant, the relationship

Table 4

FRESHMAN CHARACTERISTICS BY FAMILY CULTURAL SOPHISTICATION, IN PERCENTAGES

Freshman Characteristic	*Family Cultural Sophistication*					*Difference between very high & very low*
	Very high (*N=171*)	*High* (*N=1357*)	*Medium* (*N=1535*)	*Low* (*N=1922*)	*Very low* (*N=771*)	
Motivation to attend and complete college						
College very important	80	71	66	63	63	17
Extremely likely to graduate	73	59	54	44	36	37
Readiness for college						
High level of cultural sophistication[1]	65	49	44	31	27	38
High aptitude[2]	82	76	69	61	49	33
Low interest in popular culture[3]	63	52	47	41	45	18
Educational goals						
Want a liberal education	53	40	35	30	25	28
Plan to major in a liberal arts field	66	57	49	43	41	25
Plan to continue after B.A. degree	73	65	57	52	51	22
Graduate school	(42)	(33)	(27)	(22)	(23)	
Professional school	(31)	(32)	(30)	(30)	(28)	
Occupational goals						
High status professions[4]	51	41	38	31	32	19
Engineering, school teaching	25	34	43	51	53	28
Religiosity						
Attend religious services once a week or more	40	45	51	58	60	20
Political liberalism						
High on civil liberties[5]	50	38	34	25	21	29
Strongly disapprove the methods of Senator McCarthy	53	38	28	16	15	38
No opinion on McCarthyism	27	34	43	53	40	23
Believe there is too much conformity among students	55	50	43	39	36	19

[1] Index of student's cultural sophistication based on: book ownership, enjoyment of poetry and classical music, serious reading apart from class assignments.

[2] Combined Verbal and Mathematical Scholastic Aptitude Test score of over 1000.

[3] Index of addiction to popular culture based on: reading of popular magazines, listening to popular music.

[4] Medicine, Dentistry, Law, Ministry, College Professor, Researcher.

[5] Index of support for civil liberties based on questions about political rights and academic freedom.

between familial educational level and freshman characteristics holds up better than the relationship of family income to these characteristics.

On one item, income and education work in opposite directions: the involvement of the child in popular culture. Education counteracts addiction to popular culture, while income enhances it (Table 5). At every level of family income, greater educational sophistication means less reading of popular magazines and less listening to popular music, while at every level of family educational sophistication, higher family income means that more of the young score high on addiction to popular culture. High income families are able to indulge their young in popular literature and music and apparently do so unless restrained by cultural tastes developed through schooling. The findings here point to the radically different intellectual climates that are found in the affluent homes

Table 5

FRESHMAN ADDICTION TO POPULAR CULTURE BY FAMILY CULTURAL SOPHISTICATION AND INCOME, IN PERCENTAGES

Family cultural sophistication and income	*High addiction to popular culture by freshmen*	
Very high sophistication		
High income	44	
Medium	34	(Difference between high and low income: +12%)
Low	32	
High sophistication		
High income	57	
Medium	49	(Difference between high and low income: +14%)
Low	43	
Medium sophistication		
High income	56	
Medium	55	(Difference between high and low income: +7%)
Low	49	
Low sophistication		
High income	63	
Medium	61	(Difference between high and low income: +8%)
Low	55	
Very low sophistication		
High income	71	
Medium	57	(Difference between high and low income: +17%)
Low	54	

Difference between Very high and Very low sophistication
At high income: -27% (44 - 71)
At medium income: -23% (34 - 57)
At low income: -22% (32 - 54)

of the suburbs; even there, a high level of educational attainment in the family is an important social screen between the purveyors of mass culture and the audience of the young.

Religion of the Home

A second potent determiner of student attitudes is the religion of the family. Homes were characterized as Jewish, high Protestant, low Protestant,* and Catholic. Compared with the low Protestant and Catholic families, the Jewish and high Protestant families placed high stress on the importance of a college education (Table 6). The religious differences are modest, however, and do not stand up when the educational resources and income of the family are taken into account; comparing the religious backgrounds within categories of socioeconomic status reduces the differences (Table 7). The social class of the family is here more important than religion.

When family religion is related to characteristics of the freshman, a pattern emerges in which there is a progression from Jewish to high Protestant to low Protestant to Catholic families (Table 8). Students from Jewish families tend to have the characteristics earlier described for students from families of high educational resources and sophistication: strong educational motivation; high readiness for college; plans for liberal education, higher degrees, and high professions; weak religious commitment; and liberal political attitudes. The high Protestants are nearest to Jewish students on these characteristics, followed by the low Protestants. The differences are notable in political liberalism: On a general measure of support for civil liberties based on questions about the rights of political minorities, 54 percent of the Jewish students scored high, as did only 18 percent of Catholic students; 58 percent of the Jewish students strongly disapproved of the

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*Protestant denominations were dichotomized as high or low on the basis of their general relative social standing in the United States. The high category consisted of Episcopalians, Congregationists, Unitarians, Quakers, and Presbyterians; the low of Methodists, Lutherans, Baptists, Mormons, Disciples of the Church of Christ, and Protestant sects (Bendix & Lipset, 1953). As defined, these two categories show consistent differences in the attitudes of college-going sons and daughters. The categories, however, are quite arbitrary; they are difficult to defend in the middle range, e.g., listing Presbyterians as high and Methodists as low; they do not take into account the wide income differences within a large denomination, nor the town and regional variations in the social standing of a denomination.

Table 6

PARENTAL STRESS ON HIGHER EDUCATION BY FAMILY RELIGION, IN PERCENTAGES

Family Religion		*Stress on Higher Education*	
		Extremely important to father that student graduate from college	*High expectation in family that all siblings will go to college*
Jewish	(N=661)	59	77
High Protestant	(N=1023)[1]	56	76
Low Protestant	(N=2822)[1]	51	64
Catholic	(N=896)	49	59

[1] High Protestant (Episcopalians, Congregationalists, Quakers, Unitarians, Presbyterians); Low Protestants (Methodists, Baptists, Lutherans, Mormons, Disciples of the Church of Christ, and Protestant sects). This classification based on Bendix & Lipset (1953).

Table 7

PARENTAL STRESS ON HIGHER EDUCATION BY FAMILY RELIGION AND SOCIOECONOMIC STATUS, IN PERCENTAGES

Family Socioeconomic Status and Religion		*Stress on Higher Education*	
		Extremely important to father that student graduate from college	*High expectation in family that all siblings will go to college*
Very high SES			
Jewish	(N=137)	70	84
Protestant	(N=467)	68	83
Catholic	(N=55)	73	78
High SES			
Jewish	(N=197)	68	79
Protestant	(N=1028)	58	78
Catholic	(N=138)	64	74
Medium SES			
Jewish	(N=245)	51	75
Protestant	(N=1225)	51	68
Catholic	(N=295)	50	65
Low SES			
Jewish	(N=62)	48	69
Protestant	(N=793)	45	55
Catholic	(N=251)	43	54
Very low SES			
Jewish	(N=20)	40	55
Protestant	(N=329)	37	36
Catholic	(N=157)	36	36

Table 8

FRESHMAN CHARACTERISTICS BY FAMILY RELIGION, IN PERCENTAGES

Freshman Characteristic	*Family Religion* *Jewish* *(N=661)*	 *High Protestant* *(N=1023)*	 *Low Protestant* *(N=2822)*	 *Catholic* *(N=896)*	*Difference between Jewish and Catholic*
Motivation to attend and complete college					
College very important	70	66	66	64	6
Extremely likely to graduate	64	56	48	39	25
Readiness for college					
High level of cultural sophistication[1]	53	46	38	29	24
High aptitude[2]	83	75	63	49	34
Low interest in popular culture[3]	64	48	43	40	24
Educational goals					
Want a liberal education	50	40	32	24	26
Plan to major in a liberal arts field	79	66	68	62	17
Plan to continue after B.A. degree	71	59	54	50	21
Graduate school	(35)	(30)	(24)	(22)	(13)
Professional school	(36)	(29)	(30)	(28)	(8)
Occupational plans					
High status professions[4]	49	36	35	28	21
Engineering and school teaching	31	43	46	52	21
Religiosity					
Attend religious services once a week or more	5	51	58	82	77
Political liberalism					
High on civil liberties[5]	54	44	28	18	36
Strongly disapprove the methods of Senator McCarthy	58	31	20	12	46
No opinion on Senator McCarthy	27	40	48	51	24
Believe there is too much conformity among students	56	45	41	35	21

[1] Index of student's cultural sophistication based on: book ownership, enjoyment of poetry and classical music, serious reading apart from class assignments.

[2] Combined Verbal and Mathematical Scholastic Aptitude Test score of over 1000.

[3] Index of addiction to popular culture based on: reading of popular magazines, listening to popular music.

[4] Medicine, Dentistry, Law, Ministry, College Professor, Researcher.

[5] Index of support for civil liberties based on questions about political rights and academic freedom.

methods of the late Senator Joseph McCarthy, as against 12 percent of Catholic students. The greatest difference obtained in religious practice: 5 percent of the Jewish students, 51 and 58 percent of the two Protestant groups, and 82 percent of the Catholic students attended religious services once a week or more.

INSTITUTIONAL ATTRACTION

Colleges stretch out toward the pool of potential students in two ways: They have official criteria of entry, controlled requirements that sort students toward and away from the college; and they have external impressions that have gained currency in sectors of the public, pictures of the institution that attract some and divert others. These forms of institutional reach affect one another: Stated standards enter into reputation and reputation in turn often sets the limits within which official choice of students can operate.

Official Mandates of Selection

Colleges first of all catch students on the grounds of high school achievement and measured ability. In the academic caliber of their students, American colleges vary as much as the landscape, with ability at high peaks and in valleys below sea level. At very selective colleges, high entrance requirements cluster high-ability students at the door while eliminating the vast majority of potential students from the college's recruitment pool. At the other extreme, open door colleges, public and private, throw a net across the whole range of ability, establishing all high school graduates as members of the qualified.

The academic ability of the freshmen in the eight colleges, shown in Chapter V, results partly from the official catchments of ability that the colleges have constructed. With a student body averaging in the middle 600s on the verbal and quantitative parts of the Scholastic Aptitude Test, and a faculty desiring to have students as bright as possible, Swarthmore virtually excluded students of average ability. The son of an alumnus, if admitted with a 525 test score, would probably have to grind and grind to squeak through at the bottom, and even if there is no stated minimum, the college tries to avoid creating situations that will be cruel to the person and entail a bad risk for the college. While Reed and Antioch avoid specifying a number as the floor of acceptable ability, these colleges also have high cut-off zones in the requirements they exact (Antioch's being somewhat lower than the other two). St. Olaf, Pacific, and Portland, in turn, work further down the line in minimum ability. In their cases, high selectivity has been either impossible, or undesired, or both, as a result of church commitment and other features of historical development. At Berkeley and San Francisco State, official criteria of selection loom large: The state of California, seeking a division of labor between the university system and the state college system, gives Berkeley one set of requirements and San Francisco State another. At the time of the study, about 12 to 15 percent of the state's high school seniors were admissible by the university on grounds of academic performance, and 35 to 40 percent by the state colleges. Differences in the ability levels of the freshmen of these two institutions rest on this fact to some extent, but not entirely, as will subsequently be shown. Students who qualify for the university may also enter state colleges or junior colleges, as well as private colleges, and only about half who qualify for the university enroll in it.

A second explicit standard of college recruitment and selection is monetary cost. Colleges with high tuitions, by this fact alone, draw largely from upper middle-class families, while colleges of low cost attract many students with meager financial resources. The cost of attending the eight colleges varied greatly. Five of the colleges, Antioch, Reed, Swarthmore, St. Olaf, and University of the Pacific, were high-cost institutions, while Portland, Berkeley, and San Francisco State College offered a low-to-middle range of expenditure. A commuting student at Portland, a private college, could live for less than a residential student at Berkeley. Representing the near-minimum of costs, San Francisco State reached toward lower income students, with Berkeley and Portland next in line, in a massive way not possible for colleges such as Reed and St. Olaf.

A third formal item is selection by religion. One did not need to be Catholic to attend Portland, nor Lutheran to enter St. Olaf, but official policy was a chief cause of the heavy draw of Catholic and Lutheran students to these two campuses. The purposes of the religious college dictate a reach toward students of particular religious conviction; clerical and lay members of the parent religion recommend the college to the young with whom they are in contact. The University of the Pacific has had a modest religious component in its institutional reach, again through the members of the church serving officially and unofficially as arms of the admissions office.

Fourth in the more formal mandating of student to college is geographic coverage, a product of where the college is and how far afield it effectively recruits. In American higher education, as a whole, students remain largely within their home state and even within the section of the state where their home is located. Geographical nearness becomes a very potent factor in the presence of poverty; students without funds attend the public junior college, state college, or state university nearest home. But the geographic zones of colleges overlap and interpenetrate in many ways. Several public and private institutions draw students in common almost exclusively from the city in which they are located; colleges controlled by a religious denomination often draw from a common zone where church membership is concentrated; colleges of national visibility each have the nation at large from which to recruit.

Antioch, Reed, and Swarthmore recruit nationally. St. Olaf recruits where the Lutherans are, in its home state and three or four adjacent states. Pacific and Portland have been willing to think nationally, but in practice have worked within more circumscribed zones, the former in California and the latter in the Pacific Northwest. Berkeley and San Francisco State serve California and the San Francisco Bay Area, respectively, with a minority of undergraduates from the greater society.

These mandates of selection and recruitment assort students among types of colleges, but they also leave much leeway in the final assignment of a student to a college. In their ability requirements, colleges overlap extensively and students of modest-to-high ability have wide choice. Within large classes of colleges that have similar entrance standards, factors other than ability become critical in choice and selection. So, too, for the cost of attending: The colleges overlap a good deal, with a considerable range of ability-to-pay on many campuses. He who can afford St. Olaf, or Berkeley, can afford many other colleges, private and public, of roughly similar ability requirements. In religion, denominational colleges have students of other denominations and faiths, often generously so, as at Portland, and the overwhelming majority of colleges are now nondenominational. Even geographic location and convenience play little part for some students. We see thousands of students jump across the intervening opportunities of nearby colleges to attend colleges far away.

There is something else to institutional draw, however, besides the official preferences of the admissions apparatus, especially for expensive private colleges. The something else lies in the influence of reputation.

The Role of Reputation

A college exists as a legal entity, in its charter, constitution, and codified rules; as a physical entity, in its buildings and grounds; and as a social entity, in its staff and students and their relationships. It also exists as an imagined entity, in impressions of what it now is and the visions of what it should become ideally.* The picture in the mind reflects what the college means to the person and serves to define the institution. During years of emphasizing good football, the University of Notre Dame was seen from coast to coast as a football center. This picture affected financial donors, faculty and potential faculty, and the attraction and deflection of students. Similarly, the University of Chicago in the Hutchins era was defined by large numbers of people as intellectual and radical. Those who had absorbed this portrait "knew" what the university was like and could deduce who went there and what went on in all crevices of the campus. The conceptions of Notre Dame and Chicago had the simplicity and exaggeration of stereotypes, but the misrepresentation, the tendency to substitute the part for the whole, did not lessen the force of the imagined existence.

Organizational reputations are growing evermore important, since organizations, like individuals, live in ever larger, more complex and impersonal worlds, and are "known" by outsiders impersonally and at a geographic and social distance. The organization-outsider relationship is increasingly based on impressions, appearances that serve as a substitute for personal acquaintance, much as impressions of distant public figures serve in lieu of intimate knowledge. As Riley (1963) put it, "Reputation serves as an important link between the social structure and any particular group or individual [p.176]."

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*The literature on public impressions of colleges and universities is sparse. But for discussions of college image in general, see Boulding (1961), Clark (1960a, 1960b), Fels (1959), and reports of the University of Michigan Survey Research Center (1959-1960). For a study of images of residential houses within a campus, see Jencks and Riesman (1962). On organizational image with special reference to the hospital, see Perrow (1961); and on image in the business world, see Riley (1963).

Colleges operating in a free market are particularly prone to the growing importance of reputation.* They face the task of convincing certain outsiders to become volunteer recruits–this year, next year, and again and again–while discouraging others with less desired characteristics. Without image as a primary source of attraction (and repulsion), the admissions and public relations staff of many colleges would be very large. Public name does much of the work of transforming the unrelated stranger into participating student–student in *this* college rather than in some other among a host of competitors who offer attractive wares or tempting prices or convenience services. This form of institutional reach operates differently, however, according to the college's message and the discriminating power of its reputation. The eight colleges reveal much of the range of possibilities.

New Students' Impressions

New students think about the character of the college they are entering and their judgments are a rich vein of information, simple to tap. The recruit can tell us whether he considers his college distinctive and what, in his view, are its special qualities.

Degree of Distinction. Entering freshmen at the eight colleges were asked: *Do you see this college as having some special quality that distinguishes it from other colleges and universities? If so, what is it?* In the highly selective private colleges, nearly all entering students claimed their college had distinction (Antioch, 99 percent; Reed, 99 percent; Swarthmore, 96 percent); in the sectarian colleges, the proportion fell off, but the claim of distinction was still made by most students (St. Olaf, 87 percent; University of the Pacific, 74 percent; University of Portland, 71 percent); at

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*For an early and critical statement on the way in which competition in higher education forces a concern for reputation or "good will," see Veblen (1954).

Berkeley, the proportion remained relatively high (77 percent); at San Francisco State, less than half (46 percent) perceived a special quality (Table 9). Berkeley clearly had aura, for a public institution, while San Francisco State remained in the eyes of many similar to other public units, especially its sister state colleges. When new students in the 1961 entering class at Antioch, Reed, Swarthmore, and San Francisco State were asked whether *students* at their college were distinctive in any way, less than one out of ten at San Francisco State (9 percent) were sure their new peers were something special, in contrast to a heavy majority that thought so at Antioch (77 percent), Reed (77 percent), and Swarthmore (63 percent).

Qualities of Distinction. If the freshmen imputed something special to the college they were entering, what were the imagined qualities? The students responded in their own prose to this second half of the question, and there were individual nuances and unusual

Table 9

DISTINCTIVE QUALITY OF COLLEGE AS SEEN BY ENTERING FRESHMEN, IN PERCENTAGES[a]

			Special Quality of the College					
College	*(N)*	*Has distinctive quality*	*Curriculum*	*Standards & academic reputation*	*Liberal climate*	*Community*	*Religion*	*Cost, plant, & location*
Antioch	(401)	99	50[b]	11	79	8	0	1
Reed	(195)	99	9	58	72	17	0	0
Swarthmore	(271)	96	10	64	30	43	4	3
St. Olaf	(591)	87	21	17	6	25	58	6
U. of the Pacific	(378)	74	13	8	4	59	19	8
U. of Portland	(377)	71	15	19	3	27	35	10
S.F. State	(772)	46	21	8[c]	4	6	0	4
U. of California	(2645)	77	22	43	15	11	1	23

[a] Because some students gave more than one answer, the percentages for a college do not add to 100 percent. Each figure is the percentage of students offering that particular impression; e.g., 50 percent of the Antioch freshmen pointed to a feature of the curriculum as a distinctive quality of the college.

[b] The underlined figures are 20 percent or more.

[c] Another 11 percent of the freshmen at San Francisco State thought the college distinctive in having a vocational rather than an academic orientation, adding to 19 percent who pointed to general reputation or a general orientation of the college.

interpretations as, for example, when a new Berkeley student wrote that the campus had "the spirit and friendliness of a smaller school," and another added that traditions "make it a closer and more collegy school." The characteristics imputed to the colleges could be reasonably grouped in six categories, without much squeezing:

1. *Curriculum.* Formal arrangements for teaching and learning, such as departments, majors, and courses.

2. *Standards and reputation.* High academic standards, high academic reputation, and an academic rather than a vocational orientation.

3. *Liberal climate.* Political freedom for students, a minimum of regulations on social behavior in and out of the dormitories, student individuality and diversity.

4. *Community.* Small size, close contact, faculty interest in students, and friendliness.

5. *Religion.* Affiliation of the college with a church, religious spirit on campus.

6. *Cost, plant, and location.* Low cost, convenient location, large size, and attractive physical facilities.

Over 4,000 qualitative answers, grouped in these six categories, are summarized in Table 9 in the form of the percentage of freshmen at a college who named a certain characteristic; e.g., 50 percent of the Antioch freshmen specified a feature of the curriculum as a distinctive quality of the college. The students often gave several major answers and the percentages for a college represent the full volume of single and multiple comment (hence they do not add to a hundred). The purpose was to know how many persons, what share of the students, had certain qualities salient in their minds.

Each college had its own image profile.

ANTIOCH

At Antioch, the accent was first on liberal climate. Freedom of students, student voice in community government, honor system—such features had high salience and were reported by four out of five (79 percent) of the entrants. The following comments typify the thinking of Antioch recruits about the special nature of their campus:

> A more liberal and unrestraining atmosphere
> More liberal, free thinking
> An advanced and progressive outlook to education
> A freedom of making and choosing things for yourself—leaving things to the individual, not the faculty
> More individual freedom to do as we please and what we think best
> Community government which allows great deal of freedom
> Not having so many regulations and letting us use our own judgment
> A comprehensive honor system
> It rules under the honor system
> Honor system which gives students a chance to work out their own rhythm for living and learning
> High academic and low social standards
> The students are left on their own to either grow up rapidly or to drop out due to lack of self-control

The heavy weight of liberal climate in the thinking of entering students was borne out when a later class of freshmen responded to a question as to what was special about the students at Antioch. The most frequent response, over one-third (37 percent), was to the tune of liberality—independent in ideas, searching for freedom, free thought. Of the new students, nearly one-third (28 percent) also considered their fellows as well-rounded and mature—worldly, realistic, independent. Antioch was defined by many of its entering students as a school for liberals.

The Antioch students secondly accented the college's work-study program, categorized under curriculum in Table 9. Seventy percent of the remarks about curriculum at Antioch referred to the co-op plan alone, and another 20 percent mentioned it along with other academic features:

Co-op
Work-study program
Antioch's co-op program makes it unique
Antioch has a co-op program that lets you obtain practical experience as well as knowledge of a subject
The opportunities to gain invaluable experience by actually holding down a job in the field that you're studying in; and the opportunities to go abroad

The new Antiochians were not unmindful of the small size, the academic rank, the serious intellectuality of the campus, but these features were overshadowed by perceptions of individual freedom and the work-study plan that had become synonymous with the name of the college.

When entering students at four of the colleges were asked, *What other college do you consider to be most similar to this college?*, 20 percent at Antioch, 8 percent at Reed, and 4 percent at Swarthmore wrote "none" or words to that effect. Another 16 percent at Antioch professed they did not know. Thus a third, far more than at any other school, would not or could not specify a similar college. Somewhat more than 5 percent of Antioch students did, however, name three colleges as having some important similarity: Reed (18 percent), Oberlin (8 percent), and Bennington (6 percent). Reed was known as liberal; Oberlin was widely seen as top quality; and Bennington was often grouped with Antioch and Reed and a few other colleges as politically liberal and educationally progressive. When Antioch students specified what was similar between the other college and their own, they most frequently (over one-third of the answers) referred to liberal climate and student freedom.

REED

At Reed, as at Antioch and only at these two of the eight colleges (Table 9), entering students gave much weight to liberalism and freedom as distinctive qualities of the college, but also accented academic standing and serious intellectual life, often coupling intellectuality and freedom:

> More emphasis on academic matters
> Individual learning and intellectual freedom
> It trains its students to be individuals and to think effectively
> Emphasis on intellectual efforts, personal freedom for students
> The freedom of thought and action in intellectual and social areas both
> Besides superior intellectual quality, an air of freedom, honor, and respect for individuals
> Academic atmosphere, individual freedom, high academic rating

Reed, in short, was seen by its entering students as a place for the free intellectual.

When Reed freshmen were asked what was particular about the *students* at Reed, their answers ran heavily toward describing the serious intellectual, the kind of person deeply interested in his education rather than in social life:

> More intellectually oriented than average student body
> Interested in learning beyond the prescribed course material
> Less anxious to learn in order to make a living but for the sake of learning
> More concerned with "truth" and knowledge than superficials of "college life"

About one-fourth of the freshmen also commented on the maturity and liberality of the Reed student body, and one-fourth also picked Swarthmore as the college most similar to their own, followed by Antioch (8 percent), and Harvard (6 percent). The similarities they had in mind were, first, high standards and intellectual seriousness (51 percent), and, second, liberal, cosmopolitan climate (37 percent).

SWARTHMORE

At Swarthmore, as at Reed, the freshmen emphasized academic quality and serious intellectual life as dominant attributes of the college:

> One of the best academic ratings in the country
> The high percentage of graduates attending graduate school

> The intellectual atmosphere in both classes and social life is very distinguished
> Higher cultural and intellectual level

And, as at Reed, the students at the college were considered seriously academic, so judged by 40 percent of those entering the freshman year. The colleges considered most similar to Swarthmore were also seriously academic: Oberlin, Reed, Haverford, and Carleton (26, 14, 10, and 5 percent respectively); two-thirds specified high standards and academic seriousness as basic to the similarity.

The new Swarthmoreans also saw their college as a warm and friendly place:

> All are friendly
> An extreme amount of friendliness
> The students seem to be a very friendly and unified group
> An atmosphere of friendliness and a common interest in intellectual pursuits
> An excellent academic rating, unusually friendly atmosphere among all

The amount of comment on informality was largely made against a backdrop of women's and men's eastern private colleges and Ivy or quasi-Ivy universities much larger and more complex than Swarthmore. These other leading colleges of New England and the Middle Atlantic states were, in the eyes of some of the young, cold, impersonal, indifferent, even aloof. The comments on friendliness were offered by students who, with Swarthmore as first choice for college, had the following in mind as second and third choices: Connecticut College for Women, Wellesley; Haverford, University of Pennsylvania; Radcliffe, Pembroke; St. John's, Middlebury; Yale, University of Rochester. Other colleges in the league of reference were Princeton, Harvard, Dartmouth, Cornell, Wesleyan, and Oberlin. When the entering freshmen at Swarthmore specified the similarity between their own college and the one they thought most like it (they named Oberlin, Reed, Haverford, Carleton), they pointed first of all to academic seriousness, as mentioned above, and then secondly to informality and friendliness, to a combination of high on community spirit and low on snobbishness.

Two students at Swarthmore summed up the two most-commented on qualities as *intellectual friendliness.* It was important to entering students that the college seemed possessed of a student body that was *unusually serious, warm, friendly, free.*

ST. OLAF

In the three private colleges that had a significant church affiliation, entering students spoke of the religiousness of the campus, but in different degrees, in varying ways, and in different combinations with other campus characteristics. Religion was easily the dominant theme at St. Olaf, mentioned as a distinctive quality by about six out of ten (Table 9). The newcomers were practicing Lutherans, fully aware they were going to a Lutheran college. Typical of religious responses were: *St. Olaf is a Christian college; Church college; It has religious emphasis; The pervading Christian atmosphere that is inherent in all phases of the campus life.* Students also commented frequently (25 percent) on friendliness, coupling community and religion:

> Students have a friendly Christian attitude toward life
> The friendly, religious, considerate atmosphere
> A feeling of close religious fellowship with your fellow students
> Christian environment–friendly classmates

Along with religion and the friendship of a small religious community, the new students were ready to praise departments and disciplines, particularly the well-known music department:

> The music department seems to be the best in the country
> The wonderful music organizations they have here
> It is known for its work in music
> The choir

Chemistry also had salience:

> It is noted for its fine chemistry department
> Good chemistry school
> St. Olaf has an excellent chemistry program
> Good chem, physics, biology courses

General academic reputation was also noted:

> All the people I talked with rated St. Olaf extremely highly
> High academic standards nationwide
> Scholastically high
> It is a noted Christian college with a reputation for music and chemistry

Thus, the profile of reputation at St. Olaf was, in order of importance, religion, community, and curriculum.

UNIVERSITY OF THE PACIFIC

Unlike the freshmen at Lutheran St. Olaf, the new students at Methodist University of the Pacific did not emphasize religion, but rather friendliness and informal contact of a small campus (Table 9), with religiosity mentioned now and then as an aspect of community. With most students drawn from within California, the land of giant public colleges, the appreciation of smallness of a 1,600-student campus was formed against the backdrop of campuses many times larger. The best composite of the Pacific impressions was that it was small, friendly, church-related, with a personally attentive faculty:

> It is a small and friendly school
> Smallness–friendliness
> Its small size
> It is unquestionably a Christian college; the atmosphere here is extremely friendly and peaceful
> The spirit of unity and togetherness and religious atmosphere
> Small–close relationships between professors and students
> It is small and friendly with the ability to give personal attention to its students
> Small, friendly, extremely personal in wanting to help

Then, after community and religion, the entrants at Pacific referred to specific departments and majors–music, drama, pharmacy, education:

> The outstanding music conservatory and instructors
> Good quality education–especially music
> Excellent music and drama departments

A good school for art, music, and drama
Excellent pharmacy school
It has a top education department

Thus the image profile of Pacific was, in order of importance, community, religion, curriculum. The impressions at University of the Pacific were the most traditional of the eight colleges in the sense of the college as a small community operating within a religious framework.

UNIVERSITY OF PORTLAND

The commuting students who were signing up for classes at the University of Portland spoke of the Catholic framework and a campus small enough for personal contact.

Religion came first (Table 9):

It provides you with a religious background
It is a Catholic college and I believe it will provide the most complete and truest education
It is taught by the Holy Cross Order
It teaches our Catholic religion

Informality and friendly support were the second note:

The special attention each student can get if he is willing to ask for it
More help is given the individual student
Very excellent and friendly staff and so willing to help you
Small classes
Advisors to work with—not too crowded; friendly people

There was also substantial comment about academic standards and reputation:

A good university (Catholic)
It is ranked high among both private and public colleges
Atmosphere conducive to study—not a party school

And there were comments about the curriculum scattered across many departments:

> It has a good science course
> Few colleges offer general engineering–especially Catholic colleges
> Four-year program for nursing and a loan program
> Offers AFROTC [Air Force Reserve Officer Training Corps]
> It is well noted for its music department
> This college offers many courses in fine arts
> Classics department rare in this area
> It has a good business course

Among the six private colleges, the reputation of Portland was least concentrated on a single characteristic. Religion was the foremost item, but the entering students had impressions that spread across many qualities, toward the profile that would be expected of an urban university, public or private, church-related or secular.

SAN FRANCISCO STATE

The emphases and balance of impressions of large public institutions were different from the small private colleges. At San Francisco State, where half of the students reported no distinctive quality, the eyes of the freshmen who spoke of a distinction were focused on a particular department and major. The teaching program was mentioned most often:

> Good program for future teachers
> I think it has a good deal to offer in the teaching field
> It has a good course for people wanting to be teachers
> Teaching program–education program–is excellent

A few other departments, mainly in the arts, were noted:

> It has a very good drama and art department
> Terrific music department
> Excellent music department for a state college
> The creative arts division seems to me to be outstanding
> A good radio-TV department
> Good business and language school

When the students at State were asked in the supplementary survey about the college most similar to their own, half of them named another California state college, with 40 percent specifying San Jose State, the nearest of the established state colleges. The similarities mentioned were academic features–departments, facilities, courses, faculty.

Thus, at San Francisco State, the new students saw no distinction or saw it in the curriculum. Their no-nonsense, plain impressions contained few subtleties or mystical beliefs.

UNIVERSITY OF CALIFORNIA, BERKELEY

Students coming to "Cal" first of all laid claim to high standards and academic reputation (43 percent in Table 9):

> No. 1 undergraduate university
> Unique and highly distinguished faculty
> Cal is world renowned–everyone has heard of the University of California, I think
> Has a high rating–when you graduate from California you can be proud because it wasn't easy
> Intelligent and learned minds to be encountered
> It has a quality of excellence, an atmosphere which stimulates learning
> Finest intellectual stimulation west of the Mississippi

The university's entering students were also struck by the physical features and large size of the campus, with one out of four (23 percent) stressing such characteristics as most salient:*

> Large and beautiful campus–great library
> The beauty of the school and campus
> Many more services than other colleges–library, etc.
> Large; Cal is quite large
> Largest university in the world
> It's big

*Veblen (1954) long ago anticipated (and exaggerated) this finding: "To the laity a 'university' has come to mean, in the first place and indispensably, an aggregation of buildings and other improved real-estate. This material equipment strikes the lay attention directly and convincingly, while the pursuit of learning is a relatively obscure matter. . .[p.139]."

And the same proportion of students (22 percent) referred to the curriculum:

> Unlimited opportunities in every field
> Large curriculum
> More opportunity for specialization
> A very good architectural school
> Best school of criminology in the nation
> It has a good school of business
> A very good physics department
> Excellent English department

About one out of seven (15 percent) of the freshmen at the university saw it as an open climate, with the accent on the sheer diversity of students:

> In this area, Cal is the most cosmopolitan; in it you have the best chance to become acquainted with a variety of interests and people
> It is alive with people and extremely exciting
> Crossroad of the world; cosmopolitan
> It is a heterogeneous society in itself with opportunity for cultural education as well
> Many cultural stimulants

On a campus as large as Berkeley, small percentages still represent large numbers of persons. Students who came to the campus with an eye cocked first of all on such imputed qualities as "cosmopolitan" and "open" were only 15 percent, a small minority, but that minority would be 400 persons or twice the size of the whole freshman class at Reed. If the proportion having such qualities in mind in the freshman class were to be borne out in the whole student body on the campus, it would consist of 4,000 students–five times the size of Reed. Thus it does not always make sense when contemplating the mixture of students on large campuses to say that a certain type is "only a small minority," for the numbers involved could be large enough to compose a small army.

The composite images of the colleges, as reported by entering freshmen, varied considerably in content and scope. The entering classes not only differed in whether they thought their college had distinctive features, but also in the factors they concentrated on. The largest numbers of entering students who responded to any single item were those at Antioch and Reed (79 and 72 percent) who remarked on the liberality of the climate. In contrast, the largest figure for San Francisco State College shows that only one out of five named a feature, the "curriculum," and here the answers scattered across many majors, departments, and courses of a large campus (Table 9).

What entering students say about their college is, of course, only part of the story of reputation. The new students are not a sample of the general population or of parents of college-going youth or of high school graduates. They accentuate the positive features that drew their eye in a way that encouraged them to enroll. The attractions named by Reed freshmen, for example, may repulse others. (For an historical explanation of the Reed, Antioch, and Swarthmore images, see Clark, B., 1970.) A study (Boddewyn, 1962) of the public images of colleges in the Portland area showed that Reed's local image for high quality and nonconformity was fairly clear. The college drew much comment, sometimes appreciation of "high academic standards" and "good education provided," but more often dislike of Reed's reputed ways:

> . . . free thinking without guidance; too expensive; the way they conduct themselves; extreme political attitudes; teachers may be Communistic; a little pink; immorality of girl students back in old days; snooty; no socials and sports; beatniks; off-beat; conspicuous; up-itty; I don't understand some of the things Reed students get excited about; too progressive; radical; unfavorable reputations of students; tendency to support Communists; seems to cater to odd type of students; students are different; they could run their radio station better; I thought it used to be leftist, but not any more; brainy but poor morals and appearance; their students dress in a sloppy way; bohemian [p.34].

The Portland study reported a less distinct image for the University of Portland, with favorable comments of "nice campus" and "students courteous on the bus," and unfavorable remarks, such as, "they have Saturday classes" and "I do not like Catholics." The best known features of the school: It is Catholic and plays basketball.

And so for the other colleges. Antioch's perceived liberal climate, attractive to many of its freshmen, was a negative image in Ohio to such a degree that the college had long had less representation from its home state than it would have liked. One group's definition of the college as attractively liberal was another group's impression that it was dangerously radical. Berkeley's size and complexity admired by so many entrants was a prime reason why others who qualified shied away. University of the Pacific's appeal of traditional small-college community was to some a dulling lack of complexity and intellectual challenge. Images of a campus are thus differentiated by groups of holders; "image" is multiple images held by multiple publics. The impressions reported in detail here represent the publics that on balance were favorably impressed—weakly or strongly, but sufficiently attracted to become students.

Image as Institutional Carrier

Clearly the images of the colleges carry various messages from the campus to segments of the public and prospective students. The images give some accounting of the formal mandates for entry—desired levels of ability and achievement, the general level of costs, denominational preferences if any, the region served by the college. The images also present special characteristics that are over and above the general announced criteria of selection: a climate of liberal politics; awesome size and scientific aura; unusual strength in art and music, or chemistry, or pharmacy. These external presentations of the college tend to exaggerate, but within the exaggeration reside the objective realities. It could not be otherwise. The images do not come and go quickly, changing their stripes overnight. They are products of an institutional history and not of a public-relations office. And in carrying messages to the public, they have helped to make the college what it is today. They steer choice and thus act to bring about that which they portray. The mechanism of institution-building here is self-selection based on symbolic presentations of the institutional self.

How much images serve as institutional carriers depends on their prominence. The salient reputations of Reed and Antioch give them an unusual amount of self-selection, which results in entering classes with unusual characteristics. In contrast, the low visibility of San Francisco State to outside eyes diminishes the role of self-selection, and there the entering class can be understood more on the basis of official criteria of selection and straightforward considerations of convenience and cost. But even at State, reputation serves as a public reporter of official criteria and as informer on special strengths and weaknesses.

Institutional reputation is thus a critical if invisible thread in the complexities of student assortment in a decentralized and competitive higher education. In the United States, the college-seeking individual is not compelled by official assignment to enter any particular type of college in the United States, let alone a particular college. With private colleges as well as the public ones varying greatly in cost and student ability, there are alternatives all along the line—if not in the home area, then elsewhere in the state, and if not in the state, then elsewhere in the nation. Potential students become real candidates for admission only as, impelled by background, income, and purpose, and guided by perceptions of appropriate colleges, they step toward certain types of college education. The assortment thus depends considerably on how an awareness in the individual comes together with the reach of the college's reputation.

INFORMATION, ALTERNATIVES, AND CHOICE

Some evidence is available on how information is gained about colleges and why students agreed to become freshmen at the eight colleges.

Sources of Information

In a statewide survey of adults in Michigan (Survey Research Center, 1960) that asked, *Where or how do you get the ideas or information you have about colleges and universities in the State?*, 65 percent reported they received information through talking with friends or students and 17 percent mentioned talking with relatives. (The percentages overlap and cannot be added, since one person could give two or more answers.) The mass media was mentioned as the next most important source, with nearly one-half (46 percent) of the responding sample mentioning the newspaper as a source of information. Direct contact with colleges was least important, with only 9 percent having had personal contact with a college, only 6 percent having seen a college bulletin, and only 2 percent having encountered a college representative.

The present study, based on college entrants rather than a cross-section of adults, also points to the important role of personal sources. The most important sources of information were friends and family. When students at four of the colleges (Antioch, Reed, Swarthmore, and San Francisco State) were asked how they first learned about their college, those at the private colleges, less so at the state college, usually pointed to friends of their own age, parents, and other adults (Table 10). Over 60 percent at Antioch, Reed, and Swarthmore and a little less than one-half at San Francisco State reported personal sources. The immediate family was quite important for students at Swarthmore; friends of one's own age vied with the family in importance for those coming to Antioch and Reed; and the age peers moved considerably ahead of the family at San Francisco State, a finding congruent with the lower income and lower sophistication of the students at State. Friends in the current generation would be better informants than unsophisticated fathers and mothers.

Table 10

FIRST SOURCE OF INFORMATION ABOUT COLLEGE, IN PERCENTAGES

First Source	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*
Personal sources	63	61	64	46
Peers	26	23	17	26
Family	25	21	34	10
Adults other than parents	12	17	13	10
Impersonal sources	35	37	36	51
The college	13	12	18	20
High school	12	16	10	27
Mass media	10	9	8	4

The impersonal sources of information were relatively important at San Francisco State, where many students reported that they had first heard about the college through their own high school or the college itself. Formal channels apparently have their greatest weight at colleges of relatively weak reputation, while informal channels increase in importance where distinctive impressions obtain. Mass media counted for very little in any one of the four colleges.

When students sought to gain additional information, after having first heard about a college, they then often turned to the college itself and to the teachers and counselors in the high school. The future entrants at Antioch, Reed, and Swarthmore had turned particularly to the college itself (Table 11), where the student needed to make preliminary inquiry, have information sent to him, and often later have a personal interview with a college representative. For San Francisco State, the high school was a good source of information, since the state criteria of entry are explicit and the high school experienced in applying them. The mass media also became somewhat more important. Once aware of a college, some of the freshmen-to-be had noticed references to it in the mass media: a fifth or more of the students at the private institutions remembered they had gotten further information from a magazine,

Table 11

SUPPLEMENTARY SOURCES OF INFORMATION ABOUT COLLEGE, IN PERCENTAGES[1]

Supplementary Sources	*Antioch*	*Reed*	*Swarthmore*	*S.P. State*
Personal sources	71	77	82	60
Peers	40	42	43	39
Family	5	7	6	7
Adults other than parents	26	28	33	14
Impersonal sources	122	131	131	94
The college	76	70	69	40
High school	26	38	40	47
Mass media	20	23	22	7

[1] Respondents could list more than one additional source, and therefore the percentages add to more than one hundred.

newspaper, television, or radio. That very few (7 percent) had become further informed about San Francisco State through the media is another indication of the role of image.

Prominent reputation, then, heightens the role of face-to-face contact—parents and friends—in providing initial information about a college. Less distinct reputation means that information will not be so readily available from family and friends but will come routinely from such formal sources as the secondary-school advisor.

Alternatives

What colleges did the students consider other than the one they entered? How much mix of public and private colleges was there in their choices for college (Table 12)? Nine out of ten of the alternative choices of the Swarthmore students were private colleges, and seven out of ten were high-ranking private ones, e.g., Harvard, Bryn Mawr, Oberlin, St. Johns. Since applicants to private colleges sometimes have in mind a public college of modest selectivity to fall back on if they are not admitted to the colleges of prime choice, it is clear that this demonstrates an almost complete fixation on private higher education.

The Antioch and Reed students were somewhat less exclusively oriented to private colleges in their choices, but were still largely in the private pool. Two out of three choices were for private colleges and one out of those three were of top status.

The students at the three church-related colleges occupied a middle ground with respect to their public-private choices. The high-ranking private colleges were almost completely out of the picture; private colleges other than those in the top rank were important; and all types of public institutions—state university, state college, junior colleges—became alternatives. At St. Olaf, the alternatives divided about 50-50 between private and public, the latter being the state universities of the upper midwest, particularly the University of Minnesota and the University of Wisconsin. At the University of the Pacific, the alternatives were predominantly public (62 percent), with state colleges and junior colleges looming larger than the state university. At Portland, high-ranking private institutions were completely outside the realm of consideration; the

Table 12

COLLEGE CHOICES OF ENTERING STUDENTS, IN PERCENTAGES[1]

	Type of College					
	High-rank private	*Other private*	*Total private*	*Public university*	*State and Jr. College*	*Total public*
Antioch	35	35	70	23	8	31
Reed	29	38	67	28	4	32
Swarthmore	71	21	92	7	2	9
St. Olaf	5	43	47	37	15	52
U. of the Pacific	7	32	39	28	34	62
U. of Portland	1	48	49	30	22	52
S.F. State	1	18	19	29	52	81
U. of California	11	41	52	26	23	49

[1] First three choices of college, excluding the college entered.

alternatives were such private colleges as Gonzaga University and Seattle University, the nearest major Catholic colleges, and such public institutions as the University of Oregon, Portland State College, and Oregon State University.

Near the opposite end of the continuum from Swarthmore was San Francisco State College, with the college alternatives for entering students heavily concentrated in the public sector, and this largely at the level of state and junior colleges. For the students at San Francisco State, as at Portland, the high-ranking private institutions lay completely outside the pool of alternatives; the preferences were for San Jose State College, San Francisco City College, other junior colleges of the area, and the university campus in the hills across the bay, at Berkeley.

Berkeley itself presented an unusual story–of state university students whose pool of preferences was split between the private and public. This can only be accounted for by the unusual selectivity of the university and its aura of excellence. Many of the students who qualified for the university could also qualify for the nationally known private colleges and universities. Thus, some of them considered such eastern colleges as Harvard, Brown, Cornell, and Vassar, and such nationally known places as the University of Chicago, California Institute of Technology, Reed, and Grinnell. They particularly had Stanford in mind, and this leading private university occupied about one-fifth of the Berkeley students' pool of alternatives (Table 12). The Cal students also had alternatives in the public realm, including the other campuses of the university, such as UCLA, Davis, Santa Barbara, which received about one-sixth of their alternative choices, and the California state colleges, particularly San Jose State and San Francisco State, which received 8 and 6 percent respectively. Thus, the range of alternatives for the Berkeley aggregation of students was exceedingly wide, and included junior colleges, even though these were rarely listed among their first three choices.

The public-private distinction was an important point of differentiation in the choices of colleges: The pools varied from almost completely private to almost completely public. Another point of differentiation was the local-national distinction. Did the students consider only colleges of the immediate area, or did they have national vision? Students at Antioch, Reed, and Swarthmore came from all over the nation; the home-state recruits were only 6 percent at Antioch (Ohio), 16 percent at Reed (Oregon), and 18 percent at Swarthmore (Pennsylvania). Of the three church-related colleges, St. Olaf drew heavily from Minnesota (nearly 60 percent), and the home state together with the three nearby states of Wisconsin, Iowa, and Illinois accounted for nearly 90 percent. About one-half of the University of the Pacific students came from Stockton and central California, over 90 percent from the state as a whole, and only 8 percent from out-of-state. At the University of Portland, over one-third (38 percent) were from the city of Portland, 60 percent from Oregon, and over 90 percent from the west and southwest. In the case of the two public institutions: San Francisco State drew 80 percent of its entering freshmen from the San Francisco Bay Area and over 90 percent from California; about 40 percent of the Berkeley student body was from the Bay Area and 90 percent from California.

The location of the colleges the students reported as their first three choices gives essentially the same picture as derived above. The students at Antioch, Reed, and Swarthmore thought nationally, e.g., a college in Ohio, such as Oberlin, against a college in Connecticut, such as Wesleyan. The students at St. Olaf, Pacific, and Portland thought regionally and in many cases within the limits of the home state. Students at Berkeley, four to one, looked for a college within the state; students at San Francisco State, not only within the state, but largely within the local area.

The alternatives considered by the students who finally entered a particular college were closely tied to the reach of the institution. A college with a prominent image together with a desire to draw students from throughout the nation tends to attract students who have considered alternatives throughout the nation and are likely to be a cosmopolitan group. A college with a weaker reputation and a mandate to serve a religious constituency draws students with more modest college horizons. A state university attracts students who largely draw home-state lines around their consideration of alternatives. And an urban state college typically enrolls student bodies whose thoughts of college realistically stay within commuting range.

The alternatives are also somewhat defined by religion at the strongly church-related colleges. Over 40 percent of the other choices at Portland were Catholic colleges, and one-fifth of the students named only Catholic colleges among their first three choices. A third of the alternatives for St. Olaf students were Lutheran colleges, and 7 percent named only Lutheran places. These proportions are significant in magnitude, but obviously indicate much leeway: The desire to go only to a college of the faith affected choice but did not segregate it. As seen earlier on the public-private distinction, University of Portland students would have chosen the secular state campuses of the Pacific Northwest about as often as they did the other Catholic colleges, and St. Olaf students also perceived public campuses as no serious threat to their Lutheranism, or at least not a threat that stood in the way of education and occupational advance.

The Final Choice

After a young person has qualified for a college and desires to enroll there, there is still the possibility that he may be rejected by the college because the number of qualified applicants is larger than the freshman class. Among the eight colleges, institutional rejection of the qualified operated to a significant degree only at Swarthmore, where such rejection only slightly changed the character of entering classes, since those turned away were so similar to those admitted. The admissions officer and the faculty admissions committee pore over the records of promising applicants and with an imaginary flip of the coin take *that* one—the bright boy from St. Louis—instead of the equally well qualified one from Denver. For the most part, the final step in the entry process was largely one for the applicant to make, especially in the two large public institutions where those who qualified had to be admitted.

What were finally the most important reasons for going to a particular college? A substantial reason for enrolling in Antioch and Reed was the political and social liberality of the campus. Religion was a substantial reason for entering St. Olaf and the University of Portland, and it played a modest role in decisions to attend the University of the Pacific.

Three other reasons besides liberality and religious atmosphere loomed large in the final decision. Given eight possible reasons for coming "to this college,"* the students' most frequent answers could be grouped as: *pragmatic reasons*—low cost, chance to work on the outside, convenient location near home; *academic reasons*—general standing or reputation of the college; and *community reasons*—small size of the college and attractive student body (Table 13).

Pragmatic reasons were important at the two large public institutions and the private one—Portland—that has had a municipal-university role. Academic reasons were reported heavily at all the colleges, but even assuming across-the-board inflation of an answer considered the desirable one to give, the differences remain instructive: Nine out of ten students at Swarthmore pointed to academic reputation, as against five out of ten at San Francisco State. Five institutions were relatively high on academic reasons for entry (Antioch, Reed, Swarthmore, St. Olaf, and Cal) and three relatively low (Pacific, Portland, and San Francisco State). Small size and attractive student body were important at all six of the private colleges, particularly at the University of the Pacific, but not at the two public institutions.

Thus, the reasons for entry show that Antioch, Reed, Swarthmore, and St. Olaf had a similar pattern in that the students were "high" on academic reputation, moderately "high" on community, and "low" on convenience and cost. Religious

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**Low cost and chance to work; academic standing or reputation; rewarding social life on campus; convenience or location (near home); family tradition; better job after graduation; character of the student body; size of the college.*

Table 13

REASONS FOR ENTERING THE COLLEGE, IN PERCENTAGES

	Pragmatic (Location, cost, outside work)	*Academic (Academic reputation)*	*Community (Size, student body)*
Antioch	13	74	58
Reed	8	81	69
Swarthmore	9	88	67
St. Olaf	9	79	67
U. of the Pacific	19	53	78
U. of Portland	46	59	42
S.F. State	86	48	12
U. of California	48	81	15

preferences pulled St. Olaf away from the other three, and Antioch and Reed pulled away from Swarthmore somewhat in the search for a staunchly liberal spirit. The reasons for entry at University of the Pacific were heavy on community. Portland students mixed religious, pragmatic, and community reasons, along with the academic. San Francisco State was very high on considerations of convenience and low cost, relatively low on academic attractions, and very low on community. Berkeley students put academic reputation quite high, also attended significantly for pragmatic reasons of convenience and cost, and placed features of size and student body very low in reasons for entering. On the average, those who entered these colleges did so for reasons that linked closely to the institutional reputations and official mandates of recruitment described earlier.

PATTERNS OF ENTRY AND THE INFLUENCE OF BACKGROUND

Traditional Self-Selection

In this pattern, students seek and are admitted to a college perceived of as being traditional. Typically, students of relatively high socioeconomic standing, but moderate to low cultural sophistication are joined to small private colleges of modest image. Convenience and low cost are not critical factors; the push and pull are toward dependable community. The entering classes at the University of the Pacific were largely formed by this pattern because of the college's traditional image and its social base in a religious constituency. The freshman classes at St. Olaf also shared this pattern significantly.

Avant-garde Self-Selection

Students seek and are admitted to a college perceived of as being unusual. This pattern typically joins students of high socioeconomic standing and much cultural sophistication to small private colleges with strong public images. Again, convenience and low cost are not critical; the push and pull are toward liberality and a cosmopolitan atmosphere on top of academic quality. The entering classes of Antioch, Reed, and Swarthmore were largely formed by this pattern.

Routine Assortment

These students go to a college that is academically, geographically, and financially available to large numbers. Nearness to home and low cost are the decisive elements, and the pattern typically joins students of middle to low socioeconomic standing and low sophistication to large urban public colleges and universities (including junior colleges), where the official standards of admission are modest to low and public image is relatively weak. The entering classes at San Francisco State were largely formed by this pattern.

Upgraded Assortment

Students go to a campus that combines massive availability and significant elements of distinction. The pattern typically joins students of middle to high socioeconomic standing and moderate sophistication to the leading public campus or campuses of a state, where standards of admission are high and public image is strong relative to other public colleges. The entering classes at Berkeley were largely formed by this pattern.

No one of these patterns accounts for all the freshmen at a college, and the colleges mix the patterns in varying ways. The University of Portland combined traditional self-selection, in which religion was the key element, with routine assortment that stemmed from its municipal-college role. San Francisco State College had some unusual self-selection, in which sophisticated students were drawn by its reputation in the arts. St. Olaf had elements of avant-garde self-selection at work because of its high academic standing among Lutheran colleges, on top of its traditional self-selection.

Self-selection operates heavily in the private colleges and convenience in the public ones, but not exclusively. The public universities that possess some aura generate considerable self-selection, as evidenced by the views of students entering Berkeley, and private campuses with a local-service component in their character do get some routine assortment, as in the case of the University of Portland. Thus, patterns of entry are decided by the institution's role in society as well as by its form of control.

The discussion to this point has described some important correlations of family background and freshman attitudes, the capacities of colleges to attract students, and some elements of the process of self-selection wherein students decide for one college. The result is patterns of entry by which students of certain backgrounds and personal characteristics match up with colleges that have definable capacities of attraction. The notion that the relationship between choice of college and background is absolute, however, results in some inaccurate judgments. Although it is true that students of different social backgrounds tend to find different colleges (students from high-income families tend to enter high-tuition, selective colleges; religious-minded students tend to enter religious colleges, and so on), this is not the complete picture. Every college has some range of family income, education, and religion, and on a diversified campus these ranges may be considerable, even though the general process of self-selection piles up the numbers in one sector of the range and decreases the proportion in another. While this internal range of family background accounts for many of the differences between the freshmen of a college, it is clear, nevertheless, that the colleges obtained mixes of students that were not only different in personality and attitude but also in social origins. Did background and attitude then correlate strongly within the campus, as it did in the general college-going population? Were the differences in freshman attitudes in the different colleges simply determined by the fact that the colleges reached out to different social strata?

The institutional reach of the separate colleges had the impressive effect of grouping students in such a way that the effects of social origins were attenuated within the doors of the college. The reputations and official criteria of entry selected students by attitude as well as by income, church membership, and aptitude score. By selecting students with certain attitudes, a college tends to pull like-minded students out of different social backgrounds.

The educational climate of the family is one example of a background factor which was markedly attenuated within the freshman class. The substantial association between this family characteristic and characteristics of freshmen was earlier shown for the eight colleges as a whole. The question now is whether this relationship held within each college to the extent that it did when all the colleges were combined. The results showed that the relation of family educational resources to students' readiness for college diminished considerably; from every level of educational background, Reed drew a different mix of students than Berkeley, Swarthmore a different mix than the University of the Pacific or University of Portland. According to items which assessed the students' general cultural sophistication and the specific item which indicated whether there was low involvement in popular culture, it was clear that the colleges each drew similar students from different family backgrounds along the lines of their institutional reach (Table 14).

Turning from the freshman class's readiness for a college education to the freshmen's political attitudes, the same pattern was found. Using the items of support for civil liberties and political party preference, the draw of the college again superseded the main effects of social origins. Politically minded students went to a college from families differing considerably in the educational level of the home (Table 14). Thus, St. Olaf's entering students were quite similar in their low level of support for civil liberties, regardless of their family's educational resources; and Antioch's students were

Table 14

FAMILY EDUCATIONAL RESOURCES AND FRESHMAN CHARACTERISTICS BY COLLEGE, IN PERCENTAGES[1]

Family Educational Resources	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*St. Olaf*	*U.O.P.*	*U.P.*
			High Level of Cultural Sophistication					
Very high	67	73	71	-	58	-	-	-
High	59	71	69	52	46	41	42	18
Medium	71	74	57	37	43	37	35	26
Low	47	68	59	32	30	32	17	21
Very low	36			26	30	28	9	17
			Low Interest in Popular Culture					
Very high	65	86	71	-	54	-	-	-
High	66	79	69	43	48	36	33	43
Medium	64	82	68	36	49	35	34	31
Low	60	76	67	35	47	32	24	31
Very low	68			40	50	40	37	36
			High Support of Civil Liberties					
Very high	56	54	63	-	45			
High	55	68	63	37	33	18	26	5
Medium	49	59	58	25	36	24	13	15
Low	43	59	52	22	28	20	19	12
Very low	36			19	25	19	12	9
			Preference for Republican Party					
Very High	15	14	26	-	36	-	-	-
High	17	21	27	30	52	79	67	56
Medium	22	18	32	48	46	74	66	49
Low	35	20	30	37	44	64	70	37
Very low	9			28	28	54	44	25

[1] Percentages were omitted when there were less than 12 cases.

quite similar across the categories of background in their high support of civil liberties and their low Republicanism. The attenuation caused by institutional draw also occurred when measures of the family's socioeconomic status were used.

One feature of background that was somewhat resistant to attenuation within the freshman class was religion. When family religion was related to the freshman class's readiness for college and its political liberalism, the different religions (where they existed in a class of students) contributed substantially to differences within the class at each college (Table 15). For example, Jewish students and Catholic students still differed extensively within San Francisco State or Berkeley in readiness for college. "High Protestants" still differed from "low Protestants" in one college after another. So institutional draw did not wipe out the influence of religious background within freshman classes, although it did reduce the range of the differences, first by drawing some like-minded students from different religions, and more importantly by virtually eliminating certain religions. There were very few Catholics at Antioch, Reed, and Swarthmore; very few Jews at the University of the Pacific and University of Portland; and few Jews or Catholics at St. Olaf.

These findings shed considerable light on two types of errors made by laymen and educators about colleges and the college-going population in the United States. The Type I error is to make inferences from national data to individual colleges–for example, to observe a strong relation between income and attitude among students nationally and to assume therefore that low, middle, and high income students on a campus will have fundamentally different attitudes. They often will not. The more special the reputation of the college, the more it evidently draws homogeneously from different incomes.

The Type II error is to use information drawn from a single campus to generalize about higher education as a whole–for example, to observe certain problems of late adolescent identity at an elite eastern women's college and to assume that college women from high income families across the nation have similar problems. They often will not, since institutional reputation and official selection will take women from the upper strata who differ from one another and group them homogeneously at different colleges. No freshman class typifies the national population of college students.

Table 15

FAMILY RELIGION AND FRESHMAN CHARACTERISTICS BY COLLEGE, IN PERCENTAGES[1]

Family Religion	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*St. Olaf*	*U.O.P.*	*U.P.*
			High Level of Cultural Sophistication					
Jewish	70	78	74	40	42	-	-	-
High Protestant	57	80	62	46	41	26	30	-
Low Protestant	54	61	61	32	38	35	29	27
Catholic	56	84	-	26	36	-	18	19
			Low Interest in Popular Culture					
Jewish	76	84	79	53	57	-	-	-
High Protestant	58	80	69	37	43	47	24	-
Low Protestant	57	75	62	34	47	35	34	36
Catholic	75	92	-	37	45	-	32	31
			High Support of Civil Liberties					
Jewish	68	72	79	37	46	-	-	-
High Protestant	50	60	55	36	27	10	22	-
Low Protestant	35	58	51	25	30	21	16	15
Catholic	44	46	-	13	24	-	27	9
			Preference for Republican Party					
Jewish	2	4	6	9	13	-	-	-
High Protestant	20	24	41	52	64	63	79	-
Low Protestant	37	31	30	39	50	68	63	40
Catholic	6	15	-	30	38	-	54	39

[1] Percentages were omitted when there were less than 12 cases.

SUMMARY

The distribution of students among colleges in the United States is uncoordinated and unsystematic. However, many, perhaps most, do not choose institutions randomly. Students get to their colleges by complex processes of self-selection and college recruitment; they are pushed and pulled—pushed by personal, social, and cultural background, and pulled by institutional character. Colleges may thus end up with widely differing student bodies. The eight institutions in the present study varied greatly in the characteristics of their entrants.

Colleges reach out to potential students, or guide their choice, in two ways. The first is through official channels of entry, including academic or aptitude standards for admission. The second means of attraction is through the potency of college images in the students' minds. The formal methods of recruitment leave much latitude in the students' final choices. The picture of the institution in the individual's mind, his conception of its distinctive character, or his knowledge of its reputation may determine his choice if his ability and financial resources give him wide latitude in deciding where to go.

Interaction between personal background and institutional reach produces different patterns of entry. *Traditional self-selection* joins students of relatively high socioeconomic standing but low cultural sophistication to small private colleges of modest image—the University of the Pacific, for example. *Avant-garde self-selection* sends students of high socioeconomic and cultural background to small private colleges with a liberal and cosmopolitan atmosphere—such as Antioch, Reed, and Swarthmore. *Upgraded assortment* sends students of middle to high socioeconomic standing and modest sophistication to leading public institutions of the state where standards of admission are high and the public image is strong—the University of California is the example among the eight institutions studied. And *routine assortment* combines students of middle to low socioeconomic background and low sophistication with large urban colleges and universities which have modest to low standards of admission and weak public images, such as San Francisco State College.

These patterns are not always clean-cut. The University of Portland combined traditional self-selection, in which religion was important, with routine assortment stemming from its municipal orientation. San Francisco State also enjoyed unusual elements of self-selection, however, such as students drawn by its reputation in the arts. One might think of Reed's student body as very much of a piece, but San Francisco State had a more varied mix of student characteristics.

While it is true that students of different social backgrounds tend to select different colleges, the data gathered from the colleges studied indicated that institutional reach served to attenuate the effect of social background by attracting like-minded students from diverse social origins. This was particularly true in general cultural sophistication and support for civil liberties. Although there was a greater degree of homogeneity in Reed and Swarthmore than in San Francisco State, the eight colleges tended to draw student bodies which differed in attitudes, as well as in personal and social backgrounds.

5

Characteristics of the Entering Students

Although the eight colleges were not selected as representative of the diversity in American higher education, they nevertheless differed greatly in general character and they attracted student bodies which, in varying degrees, were distinctive. Although many students choose a particular college for adventitious reasons, such as geographic proximity or low tuition, college choice is basically a conflux of personal backgrounds and characteristics with institutional reach or attraction.

As pointed out in the preceding chapter, so salient were the reputation and image of such institutions as Reed and Antioch that they drew similar students from different social origins, or different students from comparable family backgrounds. Other institutions, with greater institutional complexity than Reed and Antioch, may draw a more diverse student body.

The eight entering student bodies which emerged from the joint processes of self-selection and selection by the colleges are described in this chapter. As will be shown, on such characteristics as academic aptitude, personality characteristics, educational aspirations, career orientations, political affiliations, religious commitments, selected attitudes, and cultural preferences, students were not distributed randomly among the eight institutions; on the contrary, the data highlight some striking differences both between and within the student bodies.

The characterization of students at entry is a significant part of the story of college impact, for the "product" is dependent on the initial qualities of the students as well as on the environment to which they respond.

ACADEMIC APTITUDE

The entering classes differed markedly in academic aptitude (Tables 16 and 17). These data consist of the Mathematical and Verbal scores on the Scholastic Aptitude Test (SAT), except for San Francisco State, St. Olaf College, and the University of the Pacific, for which estimated scores were based on conversions from

Table 16

SCHOLASTIC APTITUDE TEST SCORES (MEANS AND STANDARD DEVIATIONS) FOR ENTERING STUDENTS

Scholastic Aptitude Test			*S.F.*[1] *State (N=772)*	*U.P. (N=377)*	*U.O.P.*[2] *(N=378)*	*St.*[3] *Olaf (N=591)*	*U. of*[4] *Calif. (N=2645)*	*Antioch (N=401)*	*Reed (N=195)*	*Swarthmore (N=271)*
Verbal Test	Male	Mean	464	445			543	563	632	635
		S.D.	86	91			91	86	77	76
	Female	Mean	469	448			536	593	645	693
		S.D.	91	96			89	87	73	61
Mathematical Test	Male	Mean	451	485			610	586	644	662
		S.D.	100	101			87	83	82	86
	Female	Mean	415	414			519	532	595	639
		S.D.	100	88			92	85	94	88
Total Score	Male	Mean	915	930	1008	1001	1153	1150	1276	1297
		S.D.	154	178	162	175	154	139	124	133
	Female	Mean	884	862	993	1060	1054	1125	1240	1332
		S.D.	157	165	155	171	154	140	141	124
	Sexes Combined	Mean	894	900	998	1035	1112	1137	1263	1311
		S.D.	156	172	158	172	154	140	131	129

[1] The SAT mean scores are converted estimates from the School and College Aptitude Test. For the basis of the conversion, see Darley (1962).

[2] The SAT Total mean scores are converted estimates from the ACE Psychological Examination. Part scores (Verbal and Mathematical) could not be converted. See Darley, J.D., ibid.

[3] The SAT Total mean scores are converted estimates from the Minnesota Scholastic Aptitude Test. Part scores (Verbal and Mathematical) could not be converted. The conversion data were made available by the Student Counseling Bureau of the University of Minnesota.

[4] The SAT mean scores are estimates based on scores obtained on only 42 percent of the entering class; the estimates were checked against distribution for entering U.C. freshmen in 1960.

other ability tests. Scores on the School and College Aptitude Test (SCAT) were available for San Francisco State students, on the Minnesota Scholastic Aptitude Test for St. Olaf College students, and on the American Council on Education Psychological Examination for the University of the Pacific students. It was not possible to convert scores on the latter two tests to sub-scores on the SAT Verbal and Mathematical scales. The mean scores for the University of California were representative of the total entering class, although the SAT scores were available only for 42 percent of the class. By using a 20-item vocabulary ability test (Miner, 1957) on the total California class and by checking the 1959 class statistics with the SAT scores for the entering class of 1960, the former SAT scores were found to be accurately representative of all entering freshmen. For the basis of the SAT conversions with the ACE Psychological Examination and SCAT, see Darley (1962).

To emphasize the range of variation between the mean scores and the relative position of each school, the data for the tables in this chapter have been placed in order from left to right according to size of SAT total mean scores for men and women together. The tables emphasize that the undergraduate programs in the eight institutions had to adapt to a wide range of student abilities. The institutions at the extremes represented highly dissimilar intellectual communities; the student bodies, and probably the faculties, could not have been interchanged without extensive changes in the institutions.

To compare the colleges within the framework of a normative distribution, the mean of a distribution of total SAT scores of a national sample of students was taken as 1,000.** Using this score as a reference point, the mean scores for the first-year students in two institutions fell below this midpoint, the mean at another fell approximately on the general mean, and the means of the other student groups varied from a score only a little above the general mean to the mean for Swarthmore, which was exceeded by only 10 percent of all students in the national sample (Table 16). The mean aptitude scores in the eight institutions ranged from about the 40th to above the 90th percentile of the "normative" distribution.

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*In a large sample of college freshmen (the original standardization sample), standard scores were obtained by assigning values of 500 to the obtained raw score means of the Verbal and Mathematical subtests of the Scholastic Aptitude Test (SAT). Thus, a score of 1,000 is a close approximation to the mean of the combined subtests. The assigned standard deviation on each subtest is 100 and on the total score distribution it is approximately 175. Thus, a standard score of 600 (500 + 100) on a subtest corresponds to the 84th percentile, and one of 700 to the 98th percentile; on the combined score distribution a score of approximately 1,175 would represent the 84th percentile.

It is interesting to note that the women's mean scores had a greater range than the men's, and that the colleges varied in the extent and direction of differences between men and women. In most instances, the mean total scores for the men were either approximately the same or significantly above those for the women, but in the case of St. Olaf and Swarthmore there was a reversal in this pattern; the women had the higher total scores.

In Table 17 the SAT total scores were categorized in arbitrary intervals of 100 points. These distributions reflect both

Table 17

ENTERING STUDENTS BY INTERVALS OF SAT TOTAL SCORES, IN PERCENTAGES

Categories	*SAT-T Intervals*	*S.F.[1] State (N=772)*	*U.P. (N=377)*	*U.O.P.[2] (N=378)*	*St.[3] Olaf (N=591)*	*U. of[4] Calif. (N=2645)*	*Antioch (N=401)*	*Reed (N=195)*	*Swarthmore (N=271)*
9	1500-1600	.0	.0	.2	.0	.4	.2	3.5	8.4
8	1401-1500	.0	.2	.2	.6	3.3	3.2	11.7	16.2
7	1301-1400	.0	1.3	2.1	5.7	9.0	7.7	23.0	27.6
6	1201-1300	1.4	3.1	5.0	10.9	16.8	18.7	28.7	27.3
5	1101-1200	7.5	7.6	19.3	18.6	23.7	24.9	18.9	14.7
4	1001-1100	15.4	12.9	22.4	16.0	21.9	23.9	8.7	3.3
3	901-1000	18.1	19.6	19.5	16.7	15.6	10.9	1.5	1.1
2	800- 900	21.6	19.6	14.9	14.8	6.8	3.4	.0	.3
1	701- 800	15.4	19.6	11.7	6.7	1.9	.2	.5	.0
0	000- 700	11.0	12.4	4.4	1.1	0.6	.0	.0	.0
	No scores	9.4	3.1	.2	8.2	0.0	6.4	3.0	.7
Total Mean Score (Sexes combined)	Mean	894	900	998	1035	1112	1137	1263	1311
	S.D.	186	172	158	172	154	140	131	129

[1] The SAT mean scores are converted estimates from the School and College Aptitude Test. For the basis of the conversion, see Darley (1962).

[2] The SAT Total mean scores are converted estimates from the ACE Psychological Examination. Part scores (Verbal and Mathematical) could not be converted. See Darley, J.D., Ibid.

[3] The SAT Total mean scores are converted estimates from the Minnesota Scholastic Aptitude Test. Part scores (Verbal and Mathematical) could not be converted. The conversion data were made available by the Student Counseling Bureau of the University of Minnesota.

[4] The SAT mean scores are estimates based on scores obtained on only 42 percent of the entering class; the estimates were checked against distribution for entering U.C. freshmen in 1960.

the mean differences between the eight colleges and the dispersions of scores within schools.* Nearly 71 percent of the entering students at the University of Portland and about 66 percent of those at San Francisco State scored below the mean of the general SAT distribution; almost all entrants at Reed and Swarthmore scored above the general mean; and the difference in the mean total scores between San Francisco State and Swarthmore was more than 400 standard score points, equivalent to a difference of over 60 percentile points on the normative distribution.

Figures 1 and 2 show some of these differences in ability graphically. The bars in Figure 1 depict the proportions of students who obtained SAT total scores above the general theoretical mean of 1,000. Figure 2 presents information from the upper four intervals of Table 17, which include approximately the highest 14 percent of students in the distribution. The proportion of students of this high level of ability ranged from less than 5 percent in two schools to almost 80 percent at Swarthmore.

At schools in the middle of the distribution of total mean scores, the University of the Pacific, St. Olaf, the University of California, and Antioch (see Table 17), half or more of the students fell in intervals 3, 4, and 5. However, Figures 1 and 2 show that the California students, as a group, were more like those in Antioch, and that St. Olaf, not greatly different from the University of the Pacific in the percentage of students above the normative mean, had a significantly larger proportion of students of superior ability, that is, with SAT total scores of more than 1,200.**

The data in Table 17 and Figure 1 suggest that there were large percentages of students at the University of Portland and San Francisco State who would probably have been out of place, academically, had they by chance enrolled at Reed or Swarthmore, because the preponderance of students in the two extreme pairs of colleges had scores that were essentially at opposite poles of the

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*The interval of 100 score points in Table 17 is almost two-thirds of a standard deviation on this combined, or total score distribution. One standard deviation above the mean is equivalent to the 86th percentile; thus, about 14 percent of the cases would lie more than one standard deviation above the mean and 14 percent would lie below one standard deviation below the mean.

**The ability data are for entering freshmen, and do not reflect the general aptitude levels of the student bodies at the eight institutions, particularly San Francisco State and the University of California, which admit a large number of transfer students. There is no evidence that the many students who transferred from Reed to these public campuses were intellectual isolates.

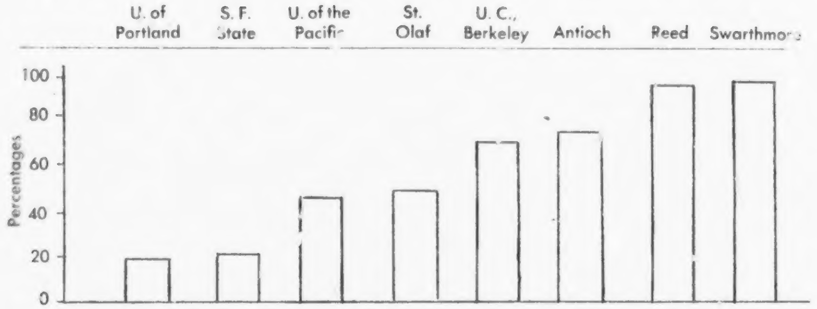

Figure 1. An approximate distribution of SAT Total scores, with the extension of each linear figure indicating the percentage of students in each school who scored above the theoretical mean of 1000.

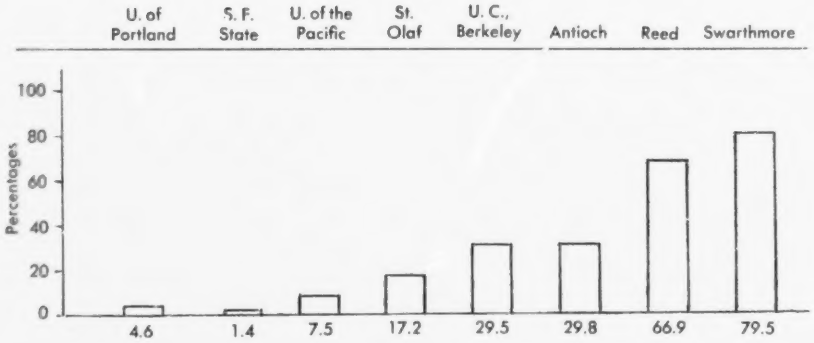

Figure 2. The percentage of students in each school whose SAT Total scores placed them above a score of 1200 on the national sample.

normative distribution of SAT scores. If students are most "comfortable" when they are grouped with others of their own ability level, individuals who deviate markedly from the predominant ability grouping would probably be severely "misplaced." Colleges whose entering students cluster at the extremes of the SAT distribution vary greatly in general level of academic performance and intellectual challenge, in both formal and informal intellectual interchange; these institutions would therefore differ in the extent and quality of students' total educational experience.

On the basis of academic ability alone, then, large proportions of the students at the University of the Pacific and St. Olaf would not have "fitted" the culture and climate of the Reed and Swarthmore peer groups, although many at the University of California and Antioch presumably could have transferred to the Reed and Swarthmore "worlds" and successfully and comfortably competed academically. It is possible, however, that differences in characteristics other than academic ability might have made such a shift inappropriate.

Although most of the students at Reed and Swarthmore were in the higher intervals of the SAT distribution, and most of those at San Francisco State and the University of Portland fell in the lower intervals, all four institutions had entering student bodies which varied substantially in measured academic aptitude. Neither at San Francisco State nor at Reed, for example, were the student bodies so homogeneous in ability that all students could have been expected to deal with symbols and abstractions in the same fashion or to be graded fairly by uniform academic standards. Methods of teaching adapted to students at the highest levels of ability may prove relatively ineffective with students at lower levels, and vice versa. Adapting instruction to individual differences becomes even more complicated when variations in intellectual disposition, educational aspirations, and other characteristics, discussed below, are taken into account.

INTELLECTUAL DISPOSITION

This study's assessment of the academic and cultural impact of college on students of varied backgrounds and motivation emphasized the intellectual interests of students more than their conventional academic performance. Most colleges and universities give priority to intellectual goals, at least in their catalog statements of educational objectives. Reed, for example, stressed its interest in the ability to handle ideas critically and constructively, and the capacity for independent exploration and investigation. It advised students to learn to measure their success not by grades, but by their intellectual grasp of a subject, and emphasized the importance of gradual growth in intellectualism. The University of the Pacific expected students to develop self-expression and skill in discovering truth, as well as an understanding of man's historical accomplishments and an appreciation of his cultural and artistic creations. Even the San Francisco State catalog, while emphasizing occupational training, stated that the student should acquire theoretical as well as practical preparation for his career. Most institutions expect students, whatever their level of intellectual commitment at entrance, to broaden their intellectual horizons, to intensify their interest in ideas and ability to manipulate abstractions, to become more theoretically oriented, to grow in intellectual initiative and independence, to extend their sensitivity to new ideas and novel solutions, and to expand their esthetic awareness. There are institutions that put greater emphasis on practicality or community than intellectuality. But those that stress community–citizenship, social relations between students and faculty, or social competence–often try to give an intellectual orientation or justification to group activity.

In order to determine how the eight colleges differed in their students' intellectuality, an index of intellectual disposition was devised to categorize students on a complex of ideational, theoretical, and esthetic interests or inclinations. This index, hereafter referred to as IDC, was based on scores on certain scales of the Omnibus Personality Inventory, a device for measuring selected personality characteristics which was included in the assessment battery administered to both entering and graduating students. (To understand the nature of the Omnibus Personality Inventory, see Heist, 1961; Heist & Yonge, 1969; McConnell, 1963; Trent & Golds, 1967.) By the use of a method of pattern analysis of scores on six scales in the OPI, all students were classified in one of eight categories representing degrees of intellectual disposition.* The distribution among these eight categories represents gradations in degree of interest and potential involvement in intellectual activity. The categories extend from an orientation of broad, intense intellectual and esthetic interests (Category 1) to one characterized by a very limited intellectual or even anti-intellectual orientation (Category 8).

At the one extreme, in the top category, were students inclined toward the ideational, the theoretical, and the artistic, although one of these three inclinations may have predominated. In most persons at the top level this broad orientation was supplemented by an openness to the new and the different, as well as a tolerance for ambiguity or uncertainty, and was likely to be accompanied by spontaneity, impulsivity, and a mild degree of anxiety or tension.

The persons categorized at the other extreme, with low scores on most of the six OPI scales, had little interest in ideas as such, were more concerned with the concrete and practical than the general and abstract, tended to be relatively more conventional and less flexible in their thinking, and had few if any artistic interests.

From the high to the low extreme there is a gradual gradation of degrees of intellectual orientation, with the actual number of categories (8) somewhat arbitrarily determined. Individuals in Categories 4 and 5 are described as being at an in-between point in their readiness for intellectual involvement. (The majority of students fell in Category 5.) It should be noted that intellectual orientation is not synonymous with academic attainment as the latter is usually measured and symbolized. Students who get the highest grades, at least in schools where the student bodies are heterogeneous in IDC, tend to be in Categories 3 through 6 and not at either extreme. A strong need for achievement expressed in grades is not typical of those in Categories 1 and 2.

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*Four OPI scales were employed as primary criteria in the IDC classification system: Thinking Introversion, Theoretical Orientation, Estheticism, and Complexity. Two other scales, Autonomy and Religious Liberalism, served as secondary or qualifying criteria.

The system of Intellectual Disposition Categories is a way of classifying or locating persons at certain points on a "continuum" of intellectual disposition. Specifically, the subjects are placed in one of eight Intellectual Disposition Categories (IDCs). This system was developed over several years on an exploratory basis and gradually acquired supportive evidence for its validity as it was tested, expanded, and retested.

Criteria for Determining Intellectual Disposition Category (IDC)

COLUMN A	COLUMN B			COLUMN C	COLUMN D
$\frac{\text{TI+TO+Es+Co}}{4}$ is:	TI and TO are:	TI or TO is:	Au or RO is:	If all criteria in Column B are met, assign student to IDC:	If one or more criteria in Column B are not met assign student to IDC:
above 64	above 59	above 69	above 59	1	2
62–64	above 54	above 64	above 54	2	3
58–61	above 49	above 59	above 49	3	4
54–57	———	above 54	above 44	4	5
48–53	———	above 49	above 44	5	6
42–47	below 55	———	below 55	6	5
38–41	———	below 46	———	7	6
below 38	———	below 41	———	8	7

To determine a student's IDC, locate the average of his standard scores on TI, TO, Es, and Co in Column A. Then, reading to the right, see if his scores meet all of the criteria in Column B. If they do, assign the IDC from Column C. If one or more of the criteria in Column B are not met, assign the IDC from Column D.

General academic aptitude is only moderately correlated with IDC, and this relationship is low enough to permit a wide distribution of IDC scores in some institutions which are highly selective and have student bodies which are quite homogeneous in academic aptitude. In certain other selective colleges, greater concentrations of students may be found in the first three IDC categories. In certain less selective institutions the concentrations may be in the lower three categories.

The number of men and women in the eight institutions who were classified in the several intellectual disposition categories is shown in Table 18. The schools are again ordered, from left to right, on total mean scores on the Scholastic Aptitude Test. The great variability in mean aptitude scores of the eight colleges was accompanied by a wide variation of the student bodies in orientations toward learning and intellectual activity, and considerable variation within student bodies, even in the selective colleges. For example, 42 percent of the Swarthmore freshman women and 27 percent of the freshman men were in the top three categories; in the same college, 16 percent of the women and 32 percent of the men were in the lowest three categories. Substantial percentages were also found in both high and low categories in Antioch. On the other hand, the percentages in the highest three categories at the University of Portland, San Francisco State, University of the Pacific, and St. Olaf were relatively small (2 to 9 percent).

The differences between the student bodies can be explored in several ways. Most obvious were the differences in proportions in the two extreme categories. In actual numbers (not given in Table 18), the three denominational colleges and San Francisco State ranged from no students to a maximum of three persons in Category 1, whereas at California the actual number of persons was over 30 (2+ percent) and averaged between 10 and 12 at Antioch, Reed, and Swarthmore. In the eighth category, the actual numbers varied from none at Reed to between 75 and 125 students at San Francisco State and the University of California respectively. The percentages (and numbers) in Category 8 indicate that in at least four, and perhaps five, institutions there was a substantial proportion of students–a group perhaps large enough to influence the academic climate strongly–with a low level of intellectual motivation. In

Table 18

ENTERING STUDENTS BY INTELLECTUAL DISPOSITION CATEGORIES, IN PERCENTAGES

Degrees of Intellectual Disposition	*U. of Portland*		*S.F. State*		*U. of the Pacific*		*St. Olaf*		*U. of Calif.*		*Antioch*		*Reed*		*Swarthmore*	
	m	*f*	*m*	*f*	*m*	*f*	*m*	*f*	*m*	*f*	*m*	*f*	*m*	*f*	*m*	*f*
1 (High)	0	0	1	0	0	0[a]	0[a]	0[a]	2	0[a]	1	6	4	7	4	5
2	1	0	2	3	3	2	3	1	4	5	10	13	24	33	7	13
3	1	2	7	5	5	4	4	4	9	8	12	15	22	28	16	24
Subtotal	*2*	*2*	*10*	*8*	*8*	*6*	*7*	*5*	*15*	*13*	*23*	*34*	*50*	*68*	*27*	*42*
4	5	2	10	11	11	14	11	9	14	17	22	22	20	18	17	19
5	14	11	21	14	14	17	20	19	25	22	29	19	19	8	24	23
Subtotal	*19*	*13*	*31*	*25*	*25*	*31*	*31*	*28*	*39*	*39*	*51*	*41*	*39*	*26*	*41*	*42*
6	45	54	34	36	38	41	40	50	32	33	20	19	10	7	25	14
7	21	16	15	18	19	14	16	9	10	9	4	3	1	0	4	0
8 (Low)	13	15	10	13	10	8	6	8	5	6	2	3	0	0	3	2
Subtotal	*79*	*85*	*59*	*67*	*67*	*63*	*62*	*67*	*47*	*48*	*76*	*25*	*11*	*7*	*32*	*16*

[a] The percentages in the top category for these groups is less than 0.5%

Category 1, there were not enough students in absolute numbers in any school to affect the atmosphere decisively, but so unusual was their intellectual interest and commitment that their potentialities should have been nurtured to the fullest possible degree.

The individuals in Categories 1 and 2 posed a special challenge. They were intellectually inquisitive, cognitive, and contemplative in their reactions to environmental stimulation. Most were well read, unusually broad in their interests, readily bored with mundane affairs and routine college instruction, and often caught up in literary or esthetic pursuits. Their orientation was sufficiently unlike that of students in Categories 3 and 4, whether or not of similar ability, that they were likely to be resentful of conventional assignments and lock-step methods of teaching. These persons probably were the most natural candidates for independent study and tutorial work. Unless they escaped the academic doldrums, many of them might have been expected to transfer to another institution before graduation, or leave college entirely. This is especially true of creative or potentially creative people–many of whom will be found in the top three categories.

In a study of 21 female and 25 male students in the three selective, nondenominational colleges who were rated as exceptionally high on manifest or potential creativity, only two were graduated from the colleges they first entered. Another investigation revealed that from 50 to 80 percent of identified creatives withdrew from seven excellent but quite dissimilar institutions, four of them in the present study (Heist, 1968).

The loss of creative talent seems to be as great in science and engineering as in the arts. A study at the Massachusetts Institute of Technology (Snyder, 1968) reported that that institution ". . . is losing three times more students who as freshmen expressed their preference to experiment with ideas or take cognitive risks than those preferring a well-ordered life with tangible results." The author also reported that students who scored high on Thinking Introversion, Complexity, and Impulse Expression (the first two scales are among those used in the index of intellectual disposition discussed above) were more likely to leave MIT than low-scoring students. Too frequently, institutions seem to reward students who are safe and systematic intellectually and discourage those who have an open, critical, and flexible turn of mind and who tend to look for novel and complex instead of simple and conventional solutions.

The differences at the extremes of IDC become somewhat more obvious when the two or three top and two or three bottom categories are combined. Then the differences between Reed and the first five schools in Table 18, reading from the left, were striking. In combining the proportions in Categories 1 and 2, one finds that the differences ranged from 1 percent to 40 percent (Reed women). Comparisons between schools for Categories 7 and 8 combined found Reed literally unrepresented and Antioch and Swarthmore minimally represented. If Category 3 is added to Categories 1 and 2, the differences between Reed, Antioch, and Swarthmore, the three most selective colleges, are emphasized. The concentration of students of strong intellectual orientation made the student body at Reed outstanding among these three colleges, and gave substance to Reed's image as a college almost single-mindedly devoted to the intellectual life.

Contrast Reed with some of the other colleges. In the first four schools, two-thirds (65 percent) or more of the freshmen (men and women combined) fell in the last three of the eight categories, and if students in Category 5 are included, 80 percent or more were accounted for in the three denominational schools and San Francisco State. About 70 percent of University of California freshmen, but only 23 percent at Reed, had an "average" intellectual orientation (Categories 5 through 8); at Berkeley, almost half the students were in Categories 6, 7, and 8.*

The disproportionate concentration of students with either relatively "strong" or "weak" intellectual dispositions, as well as high levels of ability, presumably strongly conditioned cultural milieus and the learning climates on the respective campuses. When students who are both average in academic ability and limited in intellectual orientation predominate, the dynamics and the social-psychological pressures of student life beget a more restricted and unchallenging milieu than colleges with small minorities of such students. One would expect a lower level of interest and

*In 1966, the combined percentages for classes in the bottom three categories for four of the colleges were (men and women combined): San Francisco State, 39; University of the Pacific, 44; University of California, 31; Antioch, 13. Apparently, there was some improvement in the distributions of IDCs at these four institutions.

participation in art and music, greater concern for utility than ideas, less intellectual disagreement and controversy, a more conservative religious and political orientation, less intellectual autonomy and greater reliance on intellectual and other forms of authority (Trent & Golds, 1967). Colleges with large concentrations of students in the highest categories would be characterized by just the opposite qualities. Individuals with low IDC scores in colleges with few such students, or persons with high IDC scores in schools with a very small number of comparable students may spend most of their on-campus life with peers significantly different from themselves.

Adapting instruction to students with differing academic aptitudes poses an important problem; taking variations in intellectual disposition into account is probably a more difficult—but possibly a more interesting—task. San Francisco State, with its large proportion of students who were more pragmatically than abstractly or speculatively inclined, may have found it hard to attain its objective (referred to earlier) of giving students the theoretical foundations of their occupational knowledge and ability. However, the college attracted students with interest and talent in the arts and literature, in which it has a wide reputation; these people were likely to fall in the upper four categories of intellectual disposition. The institution attempted to give these students a stimulating program with strong emphasis on creativity. But as pointed out above, very few institutions, including those in this study, succeed in understanding the potentially creative individual or in providing an environment which he finds congenial, much less one in which his talents will flower.

All too often, critics of higher education have pointed out, college teachers set assigned tasks to be mastered instead of stimulating self-propelled intellectual adventures. They are inclined to ask their students to learn rather than to evaluate what is placed before them. They are in the habit of confining students to what has already been discovered, rather than urging them to work on new problems and to break new intellectual ground. And teachers are likely to give everyone the same tasks, instead of encouraging and capitalizing individual interests and talents.

In colleges like Antioch, Reed, and Swarthmore, which have students with strong intellectual and esthetic interests and a high degree of intellectual autonomy, perfunctory teaching will only evoke boredom, indifference, or even resentment. If the reaction becomes intense enough, it can break out in such disturbances as those connected with the "Free Speech Movement" at Berkeley, where students flayed the university for ineffective teaching; declared that the undergraduate curriculum had no coherence, unity, or relevance; charged that faculty taught students *en masse* rather than recognizing and encouraging their individuality, and kept them on intellectual leading-strings instead of freeing their intellectual processes.

As Table 18 shows, the percentage of Berkeley students in the top three categories of intellectual disposition was not great. But this large campus had a fair number of people (approximately 350 in this entering class) in the high categories. According to Heist (1965), 70 percent of a group of the students in the Free Speech Movement, the majority of whom were upperclassmen who had transferred from other institutions, were in the top three categories, and none in the bottom three. The incidence of freshmen in the higher categories was much greater within the FSM than in the freshman class or in the senior samples tested with the OPI in 1963 and 1965. The discrepancy between the FSM and both the freshman and senior samples was especially great in the first two categories of IDC (Heist, 1965).

A recent study of Catholic colleges (Trent & Golds, 1967) observed that students who have a liking for thinking, for complexity, and for beauty may also be expected to be less authoritarian intellectually, more open to new ideas and new experiences, and more independent in their actions. "As might be expected . . . students who scored at the upper levels in Thinking Introversion, Complexity, and Estheticism also scored higher than other students in Nonauthoritarianism, Autonomy, and Impulse Expression [p.225]."

Heist (1965) has reported on 11 prominent activist leaders in three small colleges (of the eight involved in the present investigation) who were studied by interviews and a variety of assessment instruments. The students were described as follows:

> The characteristics which differentiated nine (out of eleven) from the general student bodies were the level of cultural sophistication, the degree of sensitivity and awareness, the extent of a libertarian orientation, the intensity of intellectual disposition, and the . . . readiness . . . to be active . . . beyond the campus norms [p.63].

Many—probably most—institutions are uneasy with such students. Wrote Heist (1965), "Students to be feared? Feared, indeed—but only as we fail to recognize their tremendous needs and fail to provide the meaningful education they seek [p.69]."

MEASURED PERSONALITY DIFFERENCES

The intellectual disposition categories (IDC) summarized in the preceding section of this chapter comprise a composite index, with the eight colleges undifferentiated with respect to the particular OPI scales which were used in categorizing the entering students. However, the relative standing of the institutions on specific scales, even some not included in the IDC pattern, gives another useful picture of differences between the colleges.

Fuller descriptions of the characteristics that the OPI scales were designed to measure may be helpful in characterizing the freshman classes. Changes in students' scores on several of the scales constitute an important part of the account of student development in Chapter VI. The scale descriptions are as follows:*

Thinking Introversion (TI) (60 items): High scorers are characterized by a liking for reflective thought, particularly of an abstract nature. They express interests in a variety of areas, such as literature, art, and philosophy. Their thinking tends to be less dominated by objective conditions and generally accepted ideas than that of thinking extroverts (low scorers). Low scorers show a preference for overt action and tend to evaluate ideas on the basis of their practical, immediate application.

Theoretical Orientation (TO) (32 items): Measures interest in science and in scientific activities, including a preference for using

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*The Omnibus Personality Inventory has been revised since the present study was made. A description of the revised, published form may be found in Heist et al., *Manual for the Omnibus Personality Inventory, Form F,* 1968.

the scientific method in thinking. High scorers are generally logical, rational, and critical in their approach to problems.

Estheticism (Es) (24 items): High scorers indicate diverse interests in artistic matters and activities. The content of the statements in this scale extends beyond painting, sculpture, and music and includes interests in literature and dramatics.

Complexity (Co) (27 items): High scorers are experimentally oriented rather than fixed in their way of viewing and organizing phenomena. They are tolerant of ambiguities and uncertainties, fond of novel situations and ideas, and frequently aware of subtle variations in the environment. Most persons high on this dimension prefer to deal with complexity, as opposed to simplicity, and are disposed to seek out and to enjoy diversity and ambiguity.

Autonomy (Au) (40 items): The characteristic measured is composed of nonauthoritarian thinking and a need for independence. High scorers are sufficiently independent of authority, as traditionally imposed through social institutions, that they oppose infringements on the rights of individuals. They are nonjudgmental, realistic, and intellectually liberal.

Developmental Status (DS) (72 items): Differentiates between older and younger college students. High scorers are more like seniors in their attitudes and thinking, expressing more rebelliousness toward authority, especially when it is institutionalized in family, school, church, or state. They are less authoritarian than the low scorer and, at the same time, freer to express impulses.

Impulse Expression (IE) (75 items): This scale assesses a general readiness to express impulses and to seek gratification either in conscious thought or in overt action. High scorers value sensations and have an active imagination, and their thinking is often dominated by feelings and fantasies.

Schizoid Functioning (SF) (74 items): High scorers admit to attitudes and behaviors that characterize socially alienated persons. Along with feelings of isolation, loneliness, and rejection, they may intentionally avoid others and experience feelings of hostility and aggression. The ego weakness of high scorers may be characterized by identity confusion, daydreaming, disorientation, feelings of impotence, and fear of loss of control.

Social Introversion (SI) (54 items): High scorers withdraw from social contacts and responsibilities and display little interest in people or in being with them. Social extroverts (low scorers) seek social contacts and gain satisfaction from them.

Religious Liberalism (RL) (29 items): High scorers are skeptical of religious beliefs and practices and tend to reject most of them, especially those that are orthodox or fundamentalistic.

Social Maturity (SM) (144 items): High scorers are flexible, tolerant, and realistic in their thinking. They are neither authoritarian nor dependent upon authority, rules, or rituals for managing social relationships. Although capable of expressing aggression directly when it is appropriate, in general they are unpunitive. High scorers are also frequently interested in intellectual and esthetic pursuits.

The analyses pursued here are based on a comparison of the mean scores on each scale for both men and women from college to college. These differences are presented graphically in Figures 3 and 4 for men and women, respectively. With the exception of the results for the men on the Social Introversion scale, the differences between the eight institutions are all statistically significant at the .05 level and most at the .01 level.*

The data show that on a number of scales the mean scores of the eight schools extended from near the 16th to the 84th percentiles (on the OPI normative distributions). At the extremes, the means of the student bodies with highest and lowest mean scores were separated by more than 60 percentile points for the men and 70 percentile points for the women, data consistent with the extensive differences in IDCs discussed earlier. The results for the two sexes were generally comparable, both in overall patterns of scores across two or more scales and the relative positions of the eight institutions on particular scales. The major difference

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***Differences between the institutions have been tested for significance by using analysis of variance. The differences between individual schools were analyzed by Duncan's multiple range test , which appears at the end of this chapter.**

between men and women was in the reversal of patterns on the Theoretical Orientation and Estheticism scales; the women were lower on the first and higher on the second. The differences in Impulse Expression, which were fairly common across schools, were consistent with differences in acculturation between the sexes.

A fairly consistent picture of the variety of students on the several campuses emerges from Figures 3 and 4. Working from the top of the graphs down, one observes that the students at Reed

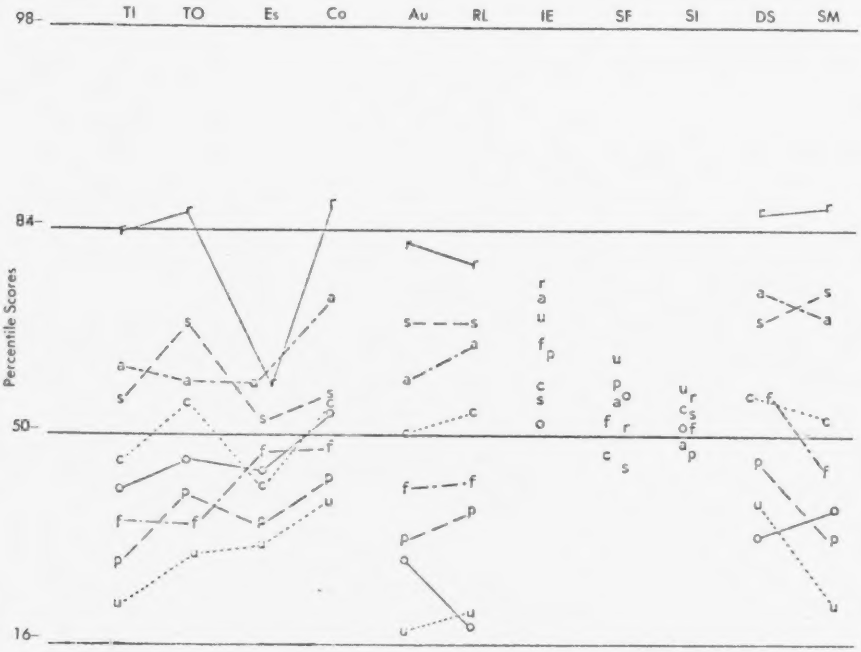

Figure 3. Personality profiles for the entering male students in the eight institutions in percentile scores on the scales in the Omnibus Personality Inventory. (Legend: a=Antioch; r=Reed; f=San Francisco State; s=Swarthmore; o=St. Olaf; c=University of California; p=University of the Pacific; and u=University of Portland.)

scored as high as, or higher (significantly on seven scales) than all other groups on all scales but one. The most prominent difference between the male groups was found on three of the first four scales; the Reed students showed much greater strength on these correlates of intellectuality. Both men and women at Antioch and Swarthmore had generally similar profiles; the mean scale scores on the first six scales fell about halfway between the 60th and 84th percentiles. However, the women in these two colleges exhibited a higher pattern across the first four scales, indicative of somewhat stronger intellectual inclinations. On the Impulse Expression scales, both the

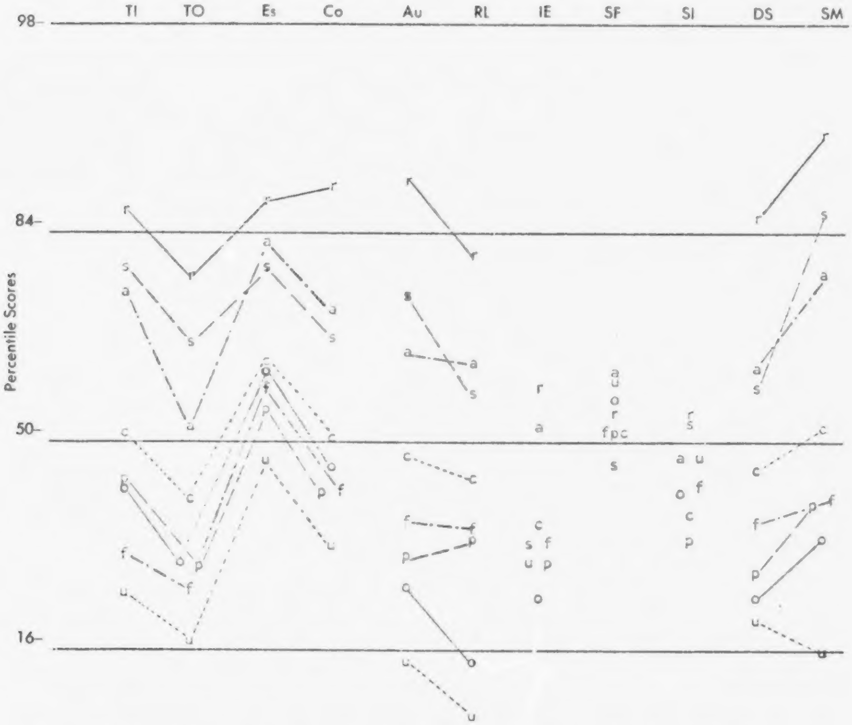

Figure 4. Personality profiles for the entering women students in the eight institutions represented as percentile scores on the scales in the Omnibus Personality Inventory. (Legend: a=Antioch; r=Reed; f=San Francisco State; s=Swarthmore; o=St. Olaf; c=University of California; p=University of the Pacific; and u=University of Portland.)

men and women at Swarthmore were significantly lower than those at Antioch and Reed.

The students at the University of California had a pattern of scores that, more characteristically than was true of the other groups, clustered around the 50th percentile. There were some interesting significant differences between the remaining four schools; but with the exceptions of the males on Impulse Expression, Schizoid Functioning, and Social Introversion, the mean scores for all four tended to fall between the 16th and 50th percentiles.

The St. Olaf men and women had a *mean* on three of the first four scales which was not significantly below that of the California students, but on Theoretical Orientation, Autonomy, Religious Liberalism, Developmental Status, and Social Maturity their scores were quite similar to those of the students at the Universities of Portland and the Pacific. These five scales, in different senses, are measures of restricted thinking and are correlates of authoritarianism. Schools which enroll a large percentage of youth from relatively conservative church backgrounds would be expected to score in a direction denoting strong belief and commitment, and also in the direction of greater intellectual dependence and authoritarianism.

The differences between the sexes on certain scales, Theoretical Orientation and Estheticism, already mentioned, and Impulse Expression, Social Introversion, and Developmental Status, were fairly consistent across the institutions and in line with male and female characteristics of the OPI standardization sample. Males tended to score higher on Theoretical Orientation, Impulse Expression, Social Introversion, and Developmental Status, while women scored higher on Estheticism. (The Impulse Expression scores for Reed and Antioch women constituted an exception.) The factors responsible for these significant differences, none of them absolutely large, were probably chiefly anchored in the general acculturation of men and women, as well as in responses to earlier educational experiences.

What do these major scale differences between institutions mean, as noted in the patterns of OPI scores and the results of statistical tests? Interpretations will be made chiefly in terms of clusters or patterns of scales, instead of single scales. The specific clusters represent the concepts of intellectual interests, nonauthoritarianism, cultural sophistication, and social-emotional adjustment.

The first four scales--an interrelated cluster of Thinking Introversion, Theoretical Orientation, Estheticism, and Complexity--represent the primary part of the index of intellectual disposition (IDC) previously discussed. On this cluster the men and women at Reed were, on the average, isolated at one extreme (which substantiated their strong intellectual initiative), and the men and women at the University of Portland, the men at the University of the Pacific, and the women at San Francisco State were at the other extreme (connoting limited ideational and theoretical concerns and a somewhat inflexible approach to learning).

A second interpretive observation, with clear, differentiating evidence in the data, centers on the positions of Antioch and Swarthmore. Both the men and women in these two colleges appeared to be generally alike in their learning readiness and their broad intellectual interests; as entering students they fell significantly below Reed, but above the five other student bodies. Both the patterns of scores in this cluster of scales indicative of intellectual orientation, as well as the results on Duncan's test, confirm the conclusion that the student bodies of Antioch, Swarthmore, and Reed were somewhat to very much unlike the mass of students in the public and denominational schools. But, to reiterate, Reed students were the most dissimilar and unique.

Both men and women at the University of California, who ranked fourth on the intellectual scale pattern, were more similar to students in the denominational institutions and in San Francisco State than they were to those in the selective liberal arts colleges. Distinctions between the students at the University of the Pacific, St. Olaf, and San Francisco State cannot be drawn, except for the women at San Francisco State, whose *pattern* of scores on the first four scales showed that, in the eight-school distribution, they were more like the University of Portland students.

The second concept, nonauthoritarianism, was assessed via the Autonomy and Religious Liberalism scales, which also comprised the secondary criteria for the intellectual disposition categorizations. High scores on these scales are related to independence of judgment, general freedom in thinking, and an openness to new ideas. As portrayed in Figures 3 and 4, the range of scores among the students on these attributes was greater than it was on the four chief correlates of intellectual interest. Again the students at Reed were at one extreme, with mean scores indicating a high degree of intellectual autonomy and independence, together with a nonfundamentalist religious orientation.

At the other extreme, the scores for the University of Portland strongly implied a restricted if not dogmatic way of thinking and strong fundamentalist commitments, as would be expected in a student body in which a large percentage were members of a strong, relatively authoritarian church. The St. Olaf students scored significantly higher than those at the University of Portland on the Autonomy scale, but the general level of both the Autonomy and Religious Liberalism scores indicated a way of thinking which was similar to that of the Portland students. While the Autonomy scores of the men and women at San Francisco State and the University of the Pacific were much in line with those of the University of Portland and St. Olaf students, the significantly higher mean scores in the former two schools on Religious Liberalism corresponded with the greater diversity of religious affiliations and beliefs on these campuses.

The freshmen at Antioch and Swarthmore, who differed significantly in academic ability, nevertheless were comparable on the two-scale nonauthoritarian dimension. Their scores distinguished them from the Reed students and those at the five remaining schools, implying that students in the first two schools were somewhat more conservative and, as suggested also by their lower Complexity scores, less open to new experiences. However, compared with students at the other four colleges, those at Reed, Swarthmore, and Antioch, and to a lesser degree at the University of California, were definitely less committed to their cultural backgrounds and freer to explore new ideas.

Aspects of social and cultural sophistication are also measured by two scales, Social Maturity and Developmental Status (OPI, Form C). The correlation between these two measures and

Autonomy is relatively high and there is also a modest relationship between Social Maturity and Religious Liberalism. The Reed men and women obtained the highest scores on both broad dimensions, the one assessing social and cultural sophistication, and the other the general level of development. The distribution of the other schools followed quite closely the rank order observed in the cases of intellectual orientation and nonauthoritarianism. The students, especially the males, in the two public institutions fell near the middle of the distributions, and the three denominational schools clustered at the lower extreme. On what we have chosen to call social and cultural sophistication, with its large component of independence, tolerance, and flexibility in thought and social relationships, the student bodies were ordered consistently with their degree of nonauthoritarianism.

On social-emotional adjustment, which is measured by three scales with large components of affective disposition and social relationships, the distinctions between institutions found on the first three clusters were not evident, and there was no comparable pattern for the two sexes. Only the statistically significant differences will be interpreted below.

When the data for the two sexes were combined, Reed and Antioch students were relatively high on Impulse Expression and the students at St. Olaf significantly lower than all other institutions but one. On this scale, however, Reed and Antioch males were not significantly different from those at San Francisco State College and the Universities of Portland and the Pacific. On Schizoid Functioning both men and women at the University of Portland scored relatively high. However, the men and women in each case were not significantly different from their counterparts in one or more other schools. The only other consistent result for both sexes was found in the relatively low Schizoid Functioning scores of men and women at Berkeley, San Francisco State, and Swarthmore. Attention should also be drawn to the high Schizoid Functioning score for the Antioch women, which was in line with their fairly high scores on the Impulse Expression scale.

Perhaps the most striking findings from the scales related to social-emotional adjustment were the high scores of both sexes at Reed and Antioch, and of the men at the University of Portland, on Impulse Expression. The impulsivity of the students can be observed on the campuses in numerous ways, from a manifestation of sheer vitality to a greater interest in sex. When tendencies toward impulsivity, especially in a campus milieu which permits ready expression of impulses, are typical of both sexes, the intensity of social-emotional interaction is understandably greater than when feelings are high in only one or in neither sex.

Turning to *combined* scores on the Impulse Expression and Schizoid Functioning scales, one finds only one school, Antioch, in which the scores composed a common story for both sexes. Both men and women as groups scored above the normative mean and at a relatively high point on these two scales; this represents a composite characterization of impulsivity, spontaneity, and expressiveness which, however, was attenuated, in feelings if not in action, by a degree of insecurity, apprehensiveness, and anxiety. In essence, the Antioch student body displayed a somewhat higher degree of psychological disturbance and tension which could be observed in personal problems and social relations on the campus.

The picture that emerged of Antioch students when the Impulse Expression and Schizoid Functioning scores at Antioch were combined also described the men at the Universities of Portland and the Pacific and the women only at Reed. The causes of these higher disturbance-anxiety levels may have been quite different, however, since the backgrounds of the student groups in question were quite dissimilar. Furthermore, the manifestations of high degrees of both impulsivity *per se* and social-emotional disturbance can take different forms and, in fact, whether feelings and anxieties are expressed or suppressed is in part contingent on the complex of other personality traits both in individuals and groups.

On the scale of Social Introversion, the findings that were consistent between the two sexes placed the University of Portland, Reed, and Swarthmore in the high group (greater introversion). The men and women of the University of the Pacific scored in the extroverted direction, but the difference between this school and the others was statistically significant only for the women. On the whole, the differences between schools on the Social Introversion scale were not such as to permit significant differentiations.

In summary, the eight institutions varied a great deal in the basic personality characteristics of their students. The differences between schools were pronounced on three scales, most on the one assessing social and cultural sophistication (SM) and a little less on scales getting at degrees of Autonomy (Au) and religious orientation (RL). The other major differences in the mean score profiles were those in intellectual interests and general level of development. From the personality measures alone, one concludes that the eight student bodies differed, in some instances greatly, in intensity of interest in intellectual and cultural pursuits, in understanding and appreciation of the sciences and the arts, in intellectual flexibility and autonomy, and in openness to new ideas and change. On some campuses, the number or proportion of students with strong intellectual and esthetic orientations would almost alone assure the predominance of a life of the intellect. But such an atmosphere is almost certain to be missing in the colleges where seriously motivated students, intellectually speaking, are the exception.

Considering the initial differences in students' academic ability and major personality characteristics ("inputs"), one would expect great variation in the institutions' educational products ("outputs").

GOALS, ATTITUDES, AND VALUES

Educational Orientation

Differences between entering freshman classes in the eight colleges, already illustrated in academic ability and personality, could be found as well in the students' educational and vocational goals, and in their political attitudes and religious beliefs.

To study the students' reasons for attending college, the freshmen were asked to identify their major preferences among stated educational goals. The percentages of respondents, college by college, who embraced the two purposes held by three-quarters or more of the students in all institutions are given in Table 19.* These two goals can be briefly expressed as "general education" and "vocational training." Students seeking a general or liberal education exceeded those desiring a vocational training in three of the eight schools—the selective, nondenominational colleges, namely, Antioch, Reed, and Swarthmore. Reed had by far the greatest proportion opting for a general education.

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*The student was asked to consider the educational goals which were most important to him and to indicate his first three preferences. The six possible goals were:

1. *Provide vocational training; develop skills and techniques applicable to your career.*
2. *Develop your ability to get along with different kinds of people.*
3. *Provide a basic general education and appreciation of ideas.*
4. *Develop your knowledge and interest in community and world problems.*
5. *Help develop your moral capacities, ethical standards, and values.*
6. *Prepare you for a happy marriage and family life.*

Table 19

EDUCATIONAL GOALS CONSIDERED MOST IMPORTANT, IN PERCENTAGES

Most important purpose of college	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Vocational training	25	14	25	67	51	59	46	64
General education	50	70	54	22	35	26	30	17

The differences, in general, found among the entering freshmen were typical also of the contemporary sophomores and seniors in the student bodies of these three institutions.* Consequently, one aspect of the predominant climate of the three colleges can be described as a strong orientation toward "basic general education and appreciation of ideas." In the other colleges, the student emphasis, in varying degrees, was toward the acquisition of occupational skills and knowledge.

The six educational goals to which students in the present study responded were the ones used in the Cornell study of students' values. The data, however, are not fully comparable, since at Cornell a cross-section of students was polled, and in the present study only entering students were involved.

The Cornell report does not give a breakdown of schools for the combined responses of men and women, but does so for men. The latter tabulation shows that in Wesleyan, Yale, Harvard, and Dartmouth approximately two to three times as many men stressed general education as emphasized vocational training—a result not unlike the selective nondenominational liberal arts colleges in our study. However, there was not as much differentiation between general and vocational goals in the five state universities in the Cornell study as there was at San Francisco State, the University of California, the University of the Pacific, and the University of Portland (Goldsen, Rosenberg, Williams, & Suchman, 1960, p.208).

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*During the first year of the study, members of both the sophomore and senior classes in the first four colleges in the study were also surveyed and tested.

Although not a part of this report, it would be instructive to look at such differences as those between men and women, or between students of different levels of ability. One might ask, for example, how students with deviant educational orientations fare where a large majority have a major commitment of another sort. There are a number of possible reactions of deviant-thinking students toward majority values: changes toward the dominant campus values over time; preservation of atypical values through insulation in subcultures; or withdrawal from the college. An inquiry into the fate of the atypical or deviant students in specific colleges, be they nonconformists, activists, or creatives, might well provide a productive approach to characterizing the institutions and discovering their social and educational processes.

Postgraduate Orientations

Two broad but correlated cleavages in attitudes of students toward their education emerge as important for understanding their reactions to college experience: first, whether they were oriented more to college as the source of a general education and appreciation of ideas, or as a source of useful skills and knowledge; and second, whether an undergraduate education was viewed as the end of formal schooling, or as preparatory to postgraduate education. (These two orientations are, of course, interrelated.)

On the simplest level, students who plan to continue their education must be concerned, more than "terminal" students need to be, with their academic records. Their transcripts will, in many cases, determine their chances of gaining entrance to professional schools or the graduate departments of their choice, and in obtaining scholarships and other financial help to carry on graduate work.

Faculty members also generally serve a different function for students who go on to graduate or professional school than they do for those who do not continue formal education. To the former, the teacher frequently becomes a model, but he is unlikely to be accepted as such by the student going directly from college to the occupational or domestic worlds, where the academic man is rarely perceived as a person to be emulated. The student who hopes to go on to postgraduate work, and especially to graduate school instead of a professional school, is likely to undergo the kind of anticipatory socialization which is expressed in a more serious involvement in academic work and perhaps in a greater openness to the intellectual impact of the college experience. As undergraduates, or even as entrants, they may already be "little dons."

The atmosphere of a college in which most of the students intend to continue their education beyond the bachelor's degree is likely, therefore, to be different in a variety of ways from the atmosphere of a college attended mainly by students who intend to go no further. For example, one would expect to find differences in the amount of time spent studying or reading in the library, and in the substance and quality of students' discussions. These variations give color and character to the general campus climate.

The aspirations of entering freshmen for graduate and professional education in the eight colleges are given in Table 20. The differences in percentages between the various colleges of students planning to go to graduate school were marked, but less so when plans for entering professional schools were considered. In the three selective colleges, the proportion of students aiming toward postgraduate work in some academic discipline ranged from 39 to 66 percent; in the other five schools, the range was between 14 and 27 percent, the largest percentage in this group being at Berkeley. Berkeley also had the largest number initially opting for a professional education, which may have reflected, in part, the number and variety of professional or preprofessional curricula available.

Table 20

ENTERING STUDENTS PLANNING TO CONTINUE EDUCATION, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Plan on graduate school	39	66	53	17	27	14	20	17
Plan on professional school	17	22	25	20	38	28	22	24
Total	56	88	78	37	65	42	42	41

The differences between a school like Reed, where two-thirds of the entering students aimed for some nonprofessional postgraduate work, and San Francisco State College and the Universities of the Pacific and Portland, where less than 20 percent planned on graduate work in a nonprofessional field, would presumably be reflected in the intellectual climates of the campuses. The differences in plans for further education corresponded in general to the differences in the students' intellectual dispositions.

Career Orientations

Differences in educational orientations also were paralleled by differences in occupational aspirations and values. The students were asked to indicate the extent to which a position or career would have to satisfy certain requirements before they would consider it ideal. Six statements characterizing jobs and careers were listed:

1. Provide an opportunity to use my special abilities and aptitudes.
2. Provide me with a chance to earn a good deal of money.
3. Permit me to be creative and original.
4. Give me an opportunity to work with people rather than things.
5. Give me an opportunity to be helpful to others.
6. Enable me to look forward to a stable, secure future.

Previous research (Goldsen et al., 1960, Pp.28-30) in which this item was also used suggests that the first and third responses may be combined as values oriented to the *intrinsic* rewards of work; the second and sixth to the *extrinsic* rewards of a job or career; and the fourth and fifth to the social values of working with people. The distributions of these job and career orientations in the entering classes of the eight colleges are shown in Table 21.

Even taking into account that these data and those in the Cornell study (Goldsen et al., 1960) were not strictly comparable, there nevertheless seemed to be greater differences between the eight colleges with respect to career orientation than there was between those in the Cornell report, which concluded that, "There is an

Table 21

CAREER ORIENTATIONS OF STUDENTS IN EIGHT INSTITUTIONS, IN PERCENTAGES

Career Orientations	*Antioch*	*Reed*	*Swarth-more*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Intrinsic reward	60	81	57	35	49	35	39	35
Extrinsic reward	10	7	12	27	24	24	18	36
People-oriented	28	11	29	38	26	35	43	27

impressive similarity in the occupational values stressed by college students throughout the country [p.30]." In the present study, the three selective liberal arts college students showed marked differences from the others in the large proportions of entrants to whom intrinsic rewards were of primary importance. The extremely large percentages for Reed were consistent with the distinguishing personality attributes of its students; it will be remembered that approximately two-thirds of Reed entrants were characterized by strong intellectual dispositions and nonauthoritarian modes of thinking. Furthermore, the data for Antioch, Reed, and Swarthmore parallel their students' preferences for a general, liberal education (with its presumably intrinsic rewards), as against the vocational aspects of higher education, with the possible primacy of extrinsic rewards. Do students who bring to college a strong orientation toward occupational and extrinsic incentives move during the college years toward a greater interest in liberal education and inherently valuable activities? Chapter VI gives a partial answer to this question.

Political Preferences

Along with variations in ability, personality characteristics, and orientations toward education and vocation, entering students can also be expected to differ in their political attitudes and religious commitments. Here again, we are not dealing with random distribution among institutions. Some of the eight colleges had a strong religious emphasis and attraction, others a less pervasive religious atmosphere and draw, and still others a secular character and little or even negative religious ethos and pull. One would expect to find that political attitudes co-varied with certain aspects of personality, social origins, religious backgrounds, and institutional character.

Table 22

REGARDLESS OF IMMEDIATE ISSUES, DO YOU USUALLY THINK OF YOURSELF AS A REPUBLICAN, OR DEMOCRAT, OR WHAT?

Party	*Antioch*	*Reed*	*Swarthmore*	*S.P. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Republican	21	20	28	36	44	65	68	39
Democrat	29	26	27	39	28	14	12	37
Independent	39	37	39	18	23	16	18	21
Socialist	2	5	1	-	1	1	0	1
Other	6	8	4	2	2	1	1	-

Political affiliation and voting preference of students at the eight institutions are shown in Tables 22 and 23, which summarize responses to the following questions:

> Regardless of immediate issues, do you usually think of yourself as a Republican, or Democrat, or what?
>
> If the last presidential election were being held today with the same candidates, which one would you favor?

Table 23

IF THE LAST PRESIDENTIAL ELECTION WERE BEING HELD TODAY WITH THE SAME CANDIDATES, WHICH ONE WOULD YOU FAVOR?

Candidate	*Antioch*	*Reed*	*Swarthmore*	*S.P. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Republican	34	26	35	53	63	79	87	69
Democrat	54	54	50	33	26	8	8	23
Don't know	11	18	13	12	10	11	5	8

Students in the three nondenominational, liberal arts institutions were much less likely to be committed to either one of the two major political parties than students at the other institutions. Large proportions (almost 40 percent) of the entrants in the selective colleges professed being Independents. Only very small percentages appeared in the Socialist or "Other" categories. Large majorities embraced Republicanism at the University of the Pacific

(65 percent) and St. Olaf (68 percent), in comparison with the predominantly Catholic student body at the University of Portland (39 percent).

Religious Commitments and Practices

The eight institutions varied greatly, as was to be expected, in the proportions of youth from different religious origins. St. Olaf drew an entering student body which was approximately 90 percent Lutheran, while Antioch, Reed, and Swarthmore attracted significant proportions (40 to 55 percent) who said that they were nonreligious, agnostic, or atheistic. Religious affiliations were reflected in the students' practices regarding church attendance at the time of entrance. In Table 24 are shown responses to a question asking the students how often, on the average, they attended church.

Table 24

VARIATIONS IN ATTENDANCE OF RELIGIOUS SERVICES, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Once a week or more	39	18	43	56	43	59	94	90
Once a month or so	20	20	24	18	22	24	4	6
Once or twice a year or never	41	61	33	25	34	14	2	4

Entering students engaged in a wide range of church-going activities. For attendance on the average of once a week or more, the percentages ranged from 94 and 90 respectively, at St. Olaf and the University of Portland, colleges with strong religious affiliations, through a middle range of 39 to 59 percent respectively at Antioch, Swarthmore, the University of California, San Francisco State, and the University of the Pacific; down to a low of 18 percent at Reed. These data, consistent with the data on the Autonomy and Religious Liberalism scales, provide a clue to another major determinant differentiating the ethos of the various campuses.

5

Political and Social Attitudes and Values

The political and social attitudes assessed may be divided into subcategories related to prominent political and social issues. Two such subcategories were civil liberties and race relations, matters of paramount social concern then and now, although there is greater controversy today over racial problems than at the time the study was started.

Responses to selected statements in the general field of civil liberties viewed from a liberal perspective are presented in Table 25. A mean rank (in the liberal direction) for each college computed from the ranks of the eight institutions on each of the six statements is presented in Table 26.* The percentages of responses indicate that the eight entering classes varied widely along a liberal-conservative line. Students in the three selective liberal arts colleges showed in every case, and by considerable margins, the highest proportion of liberal responses. Among the remaining five schools, students at the University of California were the most liberal and those at the University of Portland the least.

On the statements involving tolerance of Socialists, Communists, or former Communists, the entering classes differed greatly in their sentiments. From 72 to 81 percent of the students in the three selective colleges, and from 27 to 49 percent in the other five colleges, disagreed with the statement that former Communist party members who refuse to reveal the names of other party members should *not* be allowed to teach in colleges or universities. The students in the two public institutions (42 and 49 percent, respectively) were set off from those in the three denominational schools on this point.

On the less sensitive matter of refusing a passport to a Socialist, the proportions that disagreed show a difference averaging approximately 25 percentage points between the selective colleges and the other five institutions. To the statement which makes no reference to Communists or Socialists, but asserts that legislative committees should not investigate the political beliefs of university faculty members, the differences, although somewhat attenuated,

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*There was considerable regularity in the ranking of the students' responses at the eight schools from statement to statement.

Table 25

STUDENTS RESPONDING IN A LIBERAL DIRECTION ON SELECTED STATEMENTS RELATED TO CIVIL LIBERTIES, IN PERCENTAGES

Response Direction		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
	1. A former member of the Communist Party who refuses to reveal the names of Party members he had known should not be allowed to teach in a college or university.								
Disagree		72	77	81	42	49	32	37	27
(Rank)		3	2	1	5	4	7	6	8
	2. Present members of the Communist Party should not be allowed to teach in colleges and universities.								
Disagree		45	54	48	15	22	12	15	7
(Rank)		3	1	2	5.5	4	7	5.5	8
	3. Legislative committees should not investigate the political beliefs of university faculty members.								
Agree		53	68	64	39	44	37	37	28
(Rank)		3	1	2	5	4	6.5	6.5	8
	4. The government is acting properly in refusing a passport to a Socialist.								
Disagree		73	76	75	32	52	41	51	38
(Rank)		3	1	2	8	4	6	5	7
	5. Members of the Communist Party in this country should be allowed to speak on the radio.								
Agree		51	64	61	31	39	30	34	26
(Rank)		3	1	2	6	4	7	5	8
	6. How do you feel about the methods used by the late Senator McCarthy in his investigations?								
Strongly disapprove		57	70	61	19	23	15	11	7
(Rank)		3	1	2	5	4	6	7	8

Table 26

MEAN RANKS OF STUDENT RESPONSES TO SIX STATEMENTS RELATED TO CIVIL LIBERTIES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Liberal	3	1	2	6	4	7	5	8

were in the same direction. Between 53 and 68 percent of the students in the three selective colleges opposed such investigations, as compared with approximately 44 percent or fewer of the students entering the other five colleges. The largest difference between entering classes occurred in attitude toward the late Senator McCarthy's investigational methods (now again becoming an issue); 57 percent or more of the students at Antioch, Reed, and Swarthmore, but only 23 percent or fewer of the students at the other five schools, strongly disapproved of McCarthy's methods.

There was a single question regarding conformity—a stance not directly relevant to civil liberties. The students were asked whether they agreed with the following statement: *There is too much conformity among American college students.* A somewhat different response pattern across the eight schools, shown in Table 27, resulted from this question. Students at Reed, especially, together with those at Antioch, agreed that American college students conform too much. Only half of the students at Swarthmore and St. Olaf had this impression, while those at the University of the Pacific, the University of California, San Francisco State, and the University of Portland expressed considerably less agreement.

Table 27

STUDENTS WHO BELIEVE THERE IS TOO MUCH CONFORMITY, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Agree	69	79	51	33	38	40	50	33

The responses to two statements on race relations show much smaller differences; 64 percent or more of the students in each college did not think the Negroes were being treated fairly in the United States and would not have been opposed to having a Negro of comparable income and education move into their block. The percentages in the three nondenominational colleges were again larger than all others. These differences in favor of Antioch, Reed, and Swarthmore reflected the general liberal orientation of their students (Table 28).

Table 28

STUDENTS EXPRESSING CERTAIN ATTITUDES TOWARD NEGROES, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
1. If a Negro with the same income and education as yours moved into your block, would it make any difference to you?								
No	84	80	80	64	65	66	72	69
2. Do you think most Negroes in the U.S. are being treated fairly or unfairly?								
Unfairly	83	88	80	66	70	73	77	76

It is clear that the distribution of students' attitudes on a range of public issues shows a pattern congruent with the one which emerged from the information presented in preceding sections: The degree of intellectual orientation and nonauthoritarianism is related to liberalism in attitudes and values. The tabular data have shown that entering students at Antioch, Reed, and Swarthmore differed from the students at the other five colleges in academic ability, intellectual disposition, educational and occupational orientations, political preferences, and religious commitments.

Although this dichotomous pattern held for most of the data presented thus far, there were certain differences. For example, on academic attainment in high school, and on the importance of graduating from college, students at Berkeley joined Reed and Swarthmore in differing from the remaining five schools. At the former three colleges, past academic performance in high school and commitment to the importance of a college education were high on the part of the entering students; somewhat less so for students at Antioch and St. Olaf; still less for students at the University of the Pacific and the University of Portland; and least for those at San Francisco State. In church attendance, students at St. Olaf and the University of Portland were highest; those at Antioch, Swarthmore, and Berkeley were lower; and students at Reed were lowest of all. These differences caution us against overemphasizing the dominant characteristics of the three selective colleges.

Cultural Orientation and Awareness

Students enter at different levels of readiness for college-level studies. These differences reflect, to some degree, and as already stressed, variations in secondary school achievement, and also, in varying combinations, students' own academic aptitudes and personality characteristics. But students differ in another way that may have important implications for their serious engagement with higher education—namely, their degree of cultural awareness or "cultural sophistication." Broadly speaking, these terms refer to the extent to which students possess the qualities of mind that are the mark of the educated man—an awareness of complexity, an interest in ideas for their own sake, a reasonable familiarity with the products of "high culture" (art, music, and literature)—with at least that sense of broad social and historical trends that gives meaning to contemporary social and political issues.

To take a simple illustration of cultural differences, some students, in one way or another, before arriving at college, already have the habit of reading widely for their own pleasure and more than required for their course work, while others do little or no unrequired reading. Students who come to college already owning libraries and with the habit of good reading can begin their higher education immediately; in a real sense their educational orientation was begun long before they arrived on campus. By contrast, the less sophisticated student must first be brought into the subculture of educated men; he must learn to read and must acquire a basic way of relating himself to ideas and knowledge before his genuine higher education can really begin, if it is to begin at all.

There are many ways in which variations in cultural sophistication are manifested, and it is not surprising that among any group of students differences on one indicator are associated with differences on others. On every indicator, the students at the three small highly selective colleges showed a greater familiarity with books in general, a taste for poetry in particular, and less of an interest in popular music and popular magazines (Table 29). The connection between owning and reading books and cultural sophistication is fairly obvious, but the item on popular music (which in the questionnaire was explicitly distinguished from jazz) is indicative in another way. Pop tunes being one of the main staples of the mass youth culture, liberation from it may be a prerequisite for the development of more differentiated interests and cultivated tastes. It is significant that while the proportions of entering freshmen who did and did not like pop music were not greatly

Table 29

STUDENTS' RESPONSES TO CERTAIN INDICATORS OF CULTURAL SOPHISTICATION BY INSTITUTION, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Do quite a lot of serious reading	28	49	34	12	17	9	12	7
Currently reading an "outside" book	54	80	56	44	48	33	30	33
Personally own more than thirty books	61	73	69	42	44	41	29	23
Enjoy poetry very much	43	46	39	22	21	19	20	19
Like classical music very much	58	64	58	45	40	38	48	27
Like popular music very much	33	21	27	56	45	52	44	66
Magazines read regularly:								
Popular general (Readers Digest, Life, Sat. Evening Post, etc.)	57	49	59	76	71	82	81	79
Popular news and comment (Time, Newsweek, etc.)	62	69	65	31	44	46	36	36
General serious	24	30	19	4	8	4	3	2
Greatly interested in national and world affairs	33	42	33	15	26	19	20	19

dissimilar at the three selective colleges, the proportions who liked it outnumbered those who did not at the other colleges by from about three-to-one to thirteen-to-one (Table 30). These entering classes can be even more clearly differentiated by combining two of these indicators–doing serious reading on one's own, and not liking pop music–into a simple index of cultural sophistication. The results are given in Table 31.

Although fewer than one-third of the students entering the three selective colleges were low on this index, the proportions at the other colleges ranged from about 50 to 70 percent. The implications from these differences are many. As in the consideration of the differences in educational and occupational values, one of the questions raised is how certain students handled their deviancy in cultural sophistication. For example, how did the less sophisticated at Reed and the small number of relatively highly sophisticated students at the University of Portland manage what must have been an obvious discrepancy between their own cultural background, interests, and activities, and those of their classmates?

Table 30

LIKING FOR POPULAR MUSIC, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Not much	25	38	27	9	14	9	12	5
Very much	33	21	27	57	45	53	43	65

Table 31

INDEX OF CULTURAL SOPHISTICATION
BY INSTITUTION, IN PERCENTAGES

Cultural Sophistication	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
High	37	56	40	12	19	12	15	7
Low	32	18	26	64	49	64	49	70

SUMMARY

In this chapter, differences in a variety of characteristics between and within the entering student bodies of the eight schools have been delineated. These differences were the product of a combination of formal and informal processes of selection of students by the institutions and of choice of the institutions by the students. The consequence of these channeling and selection processes was eight student bodies with modally different academic aptitude, attitudes, and intellectual dispositions. If any characteristics entered formally into the selection of students, they were measured academic aptitude and high school achievement—at least in the three selective private colleges. But the major point of this chapter is that these student bodies also varied in a number of psychological characteristics–some central and others relatively peripheral to the personality–which were probably more a determinant (albeit often an implicit rather than explicit one) of students' choices of institutions than any deliberate process of selection by the colleges.

One conclusion is clear; there was a nonrandom relationship between freshman student characteristics and institution attended, a well-recognized fact so far as academic ability is concerned, although not so far as some of the student attributes discussed in this chapter are involved. Furthermore, if one explores high aptitude, intellectual commitment (as assessed by personality measures, attitudes, and goals), and liberalism (particularly in the political and religious spheres), he finds consistent results. The institutions with the largest proportions of students of high aptitude also tended to have the largest proportions of intellectually committed, as well as the greatest proportions of liberally oriented students. Indeed, when the eight colleges were ordered according to the proportion of students possessing each of these characteristics, the average rank order correlation was .90. Since in computing these rank order correlations all differences were treated as equivalent irrespective of their magnitude (e.g., 90 percent might equal rank one, 89 percent rank two, 58 percent rank three, etc.), the correlations were considerably higher than those which would have been obtained if *individuals* rather than *institutions* had been correlated. Indeed, the diversity of individual differences was great enough *within* schools, and the correlations among individuals on the characteristics studied were ordinarily low enough for student bodies comparable in, say, measured aptitude, to differ with respect to intellectual commitment. Such, for example, was the case at the University of California and Antioch.

The present chapter has dealt with what in Chapter I was referred to as "input" variables–"what the student brings with him in intellectual equipment, emotional disposition, interests, motivations, attitudes, values, and goals." Admittedly, these are not fixed "things" which the student brings with him like a suit of clothes, or pencils and paper. These input variables are, rather, modes of perception, ways of viewing experiences, of valuing, of seeking meaning, and of projecting a future. Input variables are not static; they are modified by features and influences of the environment, just as the nature and potentialities of the environment are influenced by the qualities of the students themselves.

Nevertheless, student characteristics at entrance provide a baseline for assessing the ways in which the student changes, as well as for indicating in varying degrees the possibility of changing. The measurement of change presents a series of difficult technical problems, as the following chapter will recognize. One of these problems is that at entrance some students, even some student bodies, are so high on measures of initial characteristics that it is next to impossible for them to change on the instruments used.

Even more difficult problems are those of assessing change, and particularly of determining the impact of the environment on student development because the input-environment-output sequence is not linear, but interpenetrating and reciprocal; no one term can be understood without the others. These problems are the subjects of the next two chapters and of the final one.

OPI SCORES AT THE EIGHT INSTITUTIONS: A NOTE ON THE DIFFERENCES

The chief basis for interpreting the differences between the OPI profiles for the eight institutions is found in the results of Duncan's multiple range test shown below. Section A gives the results for men, and Section B for women.

The underlining below the raw score means for the respective institutions denotes nonsignificant differences between those particular schools. Any institutions not found above the same line are significantly higher or lower than those underlined commonly.

The differences are shown as significant at the .05 probability level. The F value in parentheses above each series of figures indicates the significance of the differences between all eight institutions as computed by analysis of variance.

DUNCAN'S MULTIPLE RANGE TEST RESULTS FOR MEN AND WOMEN

MEN

Thinking Introversion (TI) (F = 37.97)

	Reed	*Antioch*	*Swarthmore*	*U.C.*	*St. Olaf*	*S.F. State*	*U.O.P.*	*U.P.*
$\bar{x}$	44.0	38.0	37.2	34.2	32.8	32.1	30.3	27.7

Theoretical Orientation (TO) (F = 51.04)

	Reed	*Swarthmore*	*Antioch*	*U.C.*	*St. Olaf*	*U.O.P.*	*S.F. State*	*U.P.*
$\bar{x}$	24.6	21.8	20.8	20.6	18.8	17.7	17.4	16.4

Estheticism (Es) (F = 13.75)

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*St. Olaf*	*U.O.P.*	*U.P.*
$\bar{x}$	13.2	13.1	12.0	11.4	10.0	10.0	9.9	9.0

Complexity (Co) (F = 40.27)

	Reed	*Antioch*	*Swarthmore*	*U.C.*	*St. Olaf*	*S.F. State*	*U.O.P.*	*U.P.*
$\bar{x}$	16.5	14.0	13.3	11.9	11.6	11.5	11.1	10.9

Autonomy (Au) (F = 57.36)

	Reed	*Swarthmore*	*Antioch*	*U.C.*	*S.F. State*	*U.O.P.*	*St. Olaf*	*U.P.*
$\bar{x}$	29.1	26.2	24.8	23.0	21.4	19.4	19.1	16.8

Religious Liberalism (RL) (F = 77.48)

	Reed	*Swarthmore*	*Antioch*	*U.C.*	*S.F. State*	*U.O.P.*	*U.P.*	*St. Olaf*
$\bar{x}$	19.2	17.3	16.9	15.5	13.3	13.2	9.0	8.9

Impulse Expression (IE) (F = 7.43)

	Reed	*Antioch*	*U.P.*	*S.F. State*	*U.O.P.*	*U.C.*	*Swarthmore*	*St. Olaf*
$\bar{x}$	38.4	37.9	37.1	36.2	36.0	34.8	34.4	32.3

Schizoid Functioning (SF) (F = 5.42)

	U.O.P.	U.P.	St. Olaf	Antioch	S.F. State	Reed	Swarthmore	U.C.
$\bar{X}$	36.1	34.2	34.1	33.5	31.6	31.4	31.1	31.2

Social Introversion (SI) (F = 2.51)

	U.P.	Reed	U.C.	Swarthmore	St. Olaf	S.F. State	Antioch	U.O.P.
$\bar{X}$	23.5	23.3	22.3	22.1	21.3	21.1	21.0	20.8

Developmental Status (DS) (F = 37.65)

	Reed	Antioch	Swarthmore	U.C.	S.F. State	U.O.P.	U.P.	St. Olaf
$\bar{X}$	42.9	37.0	36.7	33.8	33.6	31.2	29.2	28.2

Social Maturity (SM) (F = 69.30)

	Reed	Swarthmore	Antioch	U.C.	S.F. State	St. Olaf	U.O.P.	U.P.
$\bar{X}$	102.6	91.2	90.0	80.5	76.2	71.5	7[illegible].8	63.2

Masculinity - Femininity (MF) (F = 3.81)

	U.C.	Reed	Swarthmore	U.P.	St. Olaf	U.O.P.	Antioch	S.F. State
$\bar{X}$	57.7	57.6	56.4	56.0	54.9	54.3	54.1	53.8

Repression - Suppression (RS) (F = 6.71)

	Swarthmore	U.C.	Reed	S.F. State	Antioch	St. Olaf	U.O.P.	U.P.
$\bar{X}$	74.0	72.6	73.6	70.8	69.5	68.5	67.0	64.0

WOMEN

Thinking Introversion (TI) (F = 52.53)

	Reed	Swarthmore	Antioch	U.C.	U.O.P.	St. Olaf	S.F. State	U.P.
$\bar{X}$	46.9	43.0	41.4	35.5	33.8	33.8	31.5	29.3

Theoretical Orientation (TO) (F = 158.10)

	Reed	Swarth-more	Antioch	U.C.	U.O.P.	St. Olaf	S.F. State	U.P.
$\bar{X}$	23.1	21.6	19.2	17.4	15.8	15.5	15.0	13.6

Estheticism (Es) (F = 22.06)

	Reed	Antioch	Swarth-more	St. Olaf	U.C.	S.F. State	U.O.P.	U.P.
$\bar{X}$	17.3	16.2	15.4	13.3	13.2	12.8	12.5	11.3

Complexity (Co) (F = 27.74)

	Reed	Antioch	Swarth-more	U.C.	St. Olaf	U.O.P.	S.F. State	U.P.
$\bar{X}$	17.5	14.3	14.0	11.6	11.0	10.8	10.6	10.0

Autonomy (Au) (F = 75.13)

	Reed	Swarth-more	Antioch	U.C.	S.F. State	U.O.P.	St. Olaf	U.P.
$\bar{X}$	31.7	27.4	26.0	22.8	20.4	19.6	18.7	15.6

Religious Liberalism (RL) (F = 118.31)

	Reed	Antioch	Swarth-more	U.C.	U.O.P.	S.F. State	St. Olaf	U.P.
$\bar{X}$	19.7	17.0	16.6	13.8	11.5	11.4	7.6	5.9

Impulse Expression (IE) (F = 12.05)

	Reed	Antioch	U.C.	Swarth-more	S.F. State	U.O.P.	U.P.	St. Olaf
$\bar{X}$	35.7	32.5	28.7	28.0	28.0	27.3	27.4	25.4

Schizoid Functioning (SF) (F = 5.58)

	Antioch	U.P.	St. Olaf	Reed	U.O.P.	S.F. State	U.C.	Swarth-more
$\bar{X}$	35.9	34.6	34.5	32.4	31.5	31.5	31.4	29.7

Social Introversion (SI) (F = 4.69)

	Swarthmore	*Reed*	*Antioch*	*U.P.*	*St. Olaf*	*S.F. State*	*U.C.*	*U.O.P.*
$\bar{X}$	22.1	22.0	20.4	20.1	19.6	19.3	18.9	17.6

Developmental Status (DS) (F = 51.86)

	Reed	*Antioch*	*Swarthmore*	*U.C.*	*S.F. State*	*U.O.P.*	*St. Olaf*	*U.P.*
$\bar{X}$	43.0	35.0	34.6	30.3	28.2	26.6	24.7	23.3

Social Maturity (SM) (F = 62.58)

	Reed	*Swarthmore*	*Antioch*	*U.C.*	*U.O.P.*	*S.F. State*	*St. Olaf*	*U.P.*
$\bar{X}$	111.2	99.0	94.7	81.8	73.4	73.0	70.7	60.9

Masculinity - Femininity (MF) (F = 4.90)

	Reed	*Swarthmore*	*U.P.*	*U.C.*	*U.O.P.*	*S.F. State*	*St. Olaf*	*Antioch*
$\bar{X}$	44.7	43.8	43.1	42.2	41.5	41.5	41.3	40.2

Repression - Suppression (RS) (F = 3.87)

	Swarthmore[a]	*U.C.*	*U.O.P.*	*Reed*[a]	*S.F. State*	*St. Olaf*	*Antioch*	*U.P.*
$\bar{X}$	80.5	75.1	74.7	74.6	73.7	71.2	69.3	69.2

[a] Reed and Swarthmore were not significantly different.

6

Changes in Personality Characteristics

CHANGES IN INTELLECTUAL ORIENTATION

Just as students come to college with dissimilar attitudes toward learning, and especially with varying dispositions toward intellectual and scholarly pursuits (Chapter V), so can similar characterizations be made of them after four years of college life. Several years of college education do not dispose everyone to enjoy intellectual activity, or even to keep on learning. In general, there is a high degree of stability in the degree of intellectual disposition and commitment manifested through the college years. Nevertheless, an appreciable number of individuals do change in intellectual orientation (Feldman & Newcomb, 1969). Many change only minimally (Jacob, 1957; Trent & Medsker, 1968), and the change may be toward either greater or lesser intellectual involvement.

One of the strengths of American higher education is that it is diverse enough to accommodate the students who enroll for reasons other than the pursuit of scholarly interests, although most college and university faculties give a primary valuation to the world of intellect and scholarship. There are also schools, relatively few in number, which make a concerted effort to reveal the life of the mind as a viable, meaningful possibility for all their students. In these institutions there should be detectable changes in student orientation toward intellectual activities–a deepening commitment for some, an initiation for others. What actually occurred in the eight institutions?*

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*Throughout this chapter, differences are mentioned only when they are statistically significant ($<.05$ level). Thus, many obtained differences are ignored in the text because they are not statistically significant; this in no way prejudges the question of whether some of the differences which are nonsignificant statistically may be psychologically meaningful, especially when they are consistent among themselves and with statistically significant differences.

Change to a Strong Intellectual Orientation

A first consideration deals with the proportions of students in the eight institutions who maintained or developed a strong interest in or commitment to the world of ideas and knowledge. Before proceeding to the various analyses of change, data will be presented to show the proportions of students at the various institutions who as entering freshmen were categorized as having a strong intellectual interest, and the proportions of seniors who could so be classed.

In Chapter V a construct called intellectual disposition categories (IDC) was introduced, which is assessed by eight degrees or categories. A strong interest or disposition is indicated by placement in one of the first three IDC levels. When the data for the students in the longitudinal sample (those who were retested after four years) were analyzed to determine how the institutions compared, first of all, in the proportions of entering students with strong intellectual interests (IDCs 1-3), the eight institutions clustered into five overlapping groups. Reed stood by itself (63 percent); Swarthmore (33 percent) and Antioch (28 percent) formed a cluster; Antioch (28 percent) and the University of California (13 percent) composed another; the University of California (13 percent) and the University of the Pacific (6 percent) formed a fourth cluster; St. Olaf (6 percent), San Francisco State (7 percent), the University of the Pacific (6 percent), and the University of Portland (1 percent) comprised the fifth (Table 32).

These clusters, in which certain schools appeared more than once, were defined solely in terms of statistically significant differences. Because of differences in the way in which sample sizes affect statistical significance, the University of the Pacific, for example, with 6 percent, was clustered with the University of California, which had 13 percent, but the University of California was not clustered with San Francisco State (7 percent).

These data again emphasize that students were not randomly distributed among schools as distinctive and different from one another as the eight under study; it is clear that certain types of students were more likely to be found at some institutions than at others. The differences in student characteristics were probably

Table 32

FRESHMAN AND SENIOR IDC GROUPINGS, BY INSTITUTION
ATTENDED, IN PERCENTAGES

	Below Average *(IDC 6, 7, 8)*		*Average* *(IDC 4,5)*		*Above Average* *(IDC 1, 2, 3)*		
Institution	*Freshmen* *(N)*	*Seniors* *(N)*	*Freshmen* *(N)*	*Seniors* *(N)*	*Freshmen* *(N)*	*Seniors* *(N)*	*Total* *(N)*
Antioch	(37) 24	(27) 17	(76) 48	(67) 43	(44) 28	(63) 40	(157)
Reed	(9) 17	(4) 7	(11) 20	(24) 44	(34) 63	(26) 48	(54)
Swarthmore	(37) 22	(26) 16	(74) 45	(59) 36	(54) 33	(80) 48	(165)
S.F. State	(48) 69	(39) 56	(17) 24	(20) 29	(5) 7	(11) 16	(70)
U.C.	(164) 46	(113) 32	(147) 41	(151) 42	(45) 13	(92) 26	(356)
U.O.P.	(76) 70	(55) 51	(26) 24	(39) 36	(6) 6	(14) 13	(108)
St. Olaf	(183) 64	(108) 38	(87) 30	(127) 44	(18) 6	(53) 18	(288)
U.P.	(76) 85	(59) 66	(12) 13	(27) 30	(1) 1	(3) 3	(89)
Total	(630) 49	(431) 33	(450) 35	(514) 40	(207) 16	(342) 27	(1287)

Chi square (freshmen) = 307.9, df = 14, p<.01; Chi square (seniors) = 183.0, df = 14, p<.01

Results of Marascuilo's (1966) multiple comparison procedure:

Freshmen with above-average orientation:

Percent above average	Reed	Swarthmore	Antioch	U.C.	U.O.P.	St. Olaf	S.F. State	U.P.
	63	33	28	13	6	6	7	1

Any percentages joined by the same line are not significantly (.05) different.

Seniors with above-average orientation:

Percent above average	Swarthmore	Reed	Antioch	U.C.	St. Olaf	S.F. State	U.O.P.	U.P.
	48	48	40	26	18	16	13	3

Any percentages joined by the same line are not significantly (.05) different.

the result of both self-selection and the institutions' practices in recruitment and admission.

Looking at the differences between the institutions four years later (Table 32), it becomes apparent that the clusters based on proportions of seniors with a strong interest in the world of ideas were essentially parallel to those based on the freshman data. Now, however, Swarthmore (48 percent), Reed (48 percent), and Antioch (40 percent) formed the first cluster, with Reed having a smaller proportion than earlier; Reed (48 percent), Antioch (40 percent), and the University of California (26 percent) the second; the University of California (26 percent), St. Olaf (18 percent), San Francisco State (16 percent), and the University of the Pacific (13 percent) the third; and San Francisco State (16 percent), the University of the Pacific (13 percent), and the University of Portland (3 percent) the fourth cluster. (Again, these clusters are based on criteria of statistical significance.)

Differences between institutions were not as great for seniors as for freshmen, but this is accounted for chiefly by the diminished percentage in the above-average category at Reed. Even so, the student bodies with large proportions of intellectually oriented freshmen maintained this advantage in the senior year (the rank order correlation between freshman and senior proportions is .95). With the exception of Reed, the proportions of students with strong intellectual interests at each school increased over four years. The reduction in proportions at Reed over four years was in part the reflection of a ceiling effect in measurement. If a strong regression effect were operating, there would be a negative correlation between freshman proportions and proportions changing to or from a strong intellectual interest. In fact, there is no relationship when Reed is included, and there is a positive correlation when Reed is excluded from the ranks of institutions on freshman and change proportions.

However, although the proportion of students in the three top IDCs at each institution increased by at least 7 percent over the four years (except at Reed and Portland), only Swarthmore, Reed, and Antioch had proportions large enough (40 percent or more) to lead one to infer that the change could be attributed to the "press" of the college environments (Table 32).

With respect to differential change across the eight schools, Table 33 indicates that 19 percent of the sample not in IDC levels 1-3 as freshmen had moved into these categories as seniors. If there were no differential change into these categories across schools, one would expect that approximately 19 percent of the sample at each school would move into these categories. There is evidence for differential change, however, in that colleges showed both more and less than a 19 percent change toward a strong interest in ideas (Antioch, 30 percent; Swarthmore, 36 percent; University of the Pacific, 10 percent; and the University of Portland, 4 percent).

Table 33

SENIORS WHO CHANGED TO AN ABOVE AVERAGE ORIENTATION TO THE WORLD OF IDEAS (IDC 1-3), BY SCHOOL AND SEX, IN PERCENTAGES

	Senior Men		*Senior Women*		*Seniors*	
School	*Total (N)*	*% moved to 1-3*	*Total (N)*	*% moved to 1-3*	*Total (N)*	*% moved to 1-3*
Antioch	(66)	30	(47)	30	(113)	30
Reed	(17)	24	(3)	33	(20)	25
Swarthmore	(55)	33	(56)	39	(111)	36
S.F. State	(18)	17	(47)	8	(65)	11
U.C.	(148)	22	(163)	17	(311)	19
U.O.P.	(41)	7	(61)	11	(102)	10
St. Olaf	(116)	22	(154)	12	(270)	16
U.P.	(35)	6	(53)	2	(88)	4
	(496)	22	(584)	16	(1080)	19
	$x^2 = 19.2$, df = 7 $p<.05$		$x^2 = 48.8$, df = 7 $p<.01$		$x^2 = 56.6$, df = 7 $p<.01$	

A comparison of the data in Tables 32 and 33 reveals that the incidence of change to IDCs 1-3 is related, as might be expected, to the freshman IDC distribution at each school. The rank order correlation between the proportion of freshman students in Categories 4-5 and the proportion of the total student body sample changing to Categories 1-3 is .73, $p < .05$. Further, the rank order correlation between the proportion of freshman students in Categories 6-8 and the total proportion changing to Categories 1-3 is -.93, $p < .01$. That is, the apparent differential change may have been largely a function of the freshman IDC distribution. To investigate this possibility, analyses for differential change into IDCs 1-3 across schools were made for both those who were in Categories 4-5 and those who were in Categories 6-8 as freshmen.

For the total number of students who were in Categories 4-5 as freshmen, there were no significant differences between the institutions in shifts to Categories 1-3, although, as indicated in Table 34, the percentages that changed ranged from 45 at Reed to 17 at Portland. Analyses by each sex separately also showed no reliable differences between schools.

TABLE 34

STUDENTS IN CATEGORIES 4-5 AS FRESHMEN WHO MOVED TO CATEGORIES 1-3 AS SENIORS, BY SCHOOL AND SEX, IN PERCENTAGES

	Senior Men		*Senior Women*		*Seniors*	
School	*(N) in 4-5 as Freshmen*	*% moved to 1-3*	*(N) in 4-5 as Freshmen*	*% moved to 1-3*	*Total (N) in 4-5 as Freshmen*	*% moved to 1-3*
Antioch	(45)	40	(31)	42	(76)	41
Reed	(10)	40	(1)	100	(11)	45
Swarthmore	(32)	38	(42)	48	(74)	42
S.F. State	(6)	33	(11)	27	(17)	29
U.C.	(76)	34	(71)	35	(147)	35
U.O.P.	(10)	20	(16)	31	(26)	27
St. Olaf	(39)	46	(48)	23	(87)	32
U.P.	(5)	20	(7)	14	(12)	17
Total	(223)	37	(227)	35	(450)	36
	x^2 not significant		x^2 not significant		x^2 not significant	

For the total number of students who were in Categories 6-8 as freshmen, there was a significant difference across schools in the incidence of change to Categories 1-3. A higher percentage of Swarthmore students (24 percent) changed to Categories 1-3 than in all the other institutions. The colleges with the next largest proportions were Antioch and St. Olaf; in both, 8 percent made this large change. The explicit comparison of Swarthmore students with all others is significant for women (21 percent Swarthmore versus 4 percent for all others; chi-square with Yates' correction = 6.4, df=1, $p < .01$). This comparison is not significant for men, where 27 percent changed to Categories 1-3 as compared with 8 percent at the other schools.

Table 35

STUDENTS IN CATEGORIES 6-8 AS FRESHMEN WHO MOVED TO CATEGORIES 1-3 AS SENIORS, BY SCHOOL AND SEX, IN PERCENTAGES

	Senior Men		*Senior Women*		*Seniors*	
School	*(N) in 6-8 as Freshmen*	*% moved to 1-3*	*(N) in 6-8 as Freshmen*	*% moved to 1-3*	*Total (N) in 6-8 as Freshmen*	*% moved to 1-3*
Antioch	(21)	10	(16)	8	(37)	8
Reed	(7)	0	(2)	0	(9)	0
Swarthmore	(23)	27	(14)	21	(37)	24
S.F. State	(12)	8	(36)	3	(48)	4
U.C.	(72)	8	(92)	3	(164)	5
U.O.P.	(31)	3	(45)	4	(76)	4
St. Olaf	(77)	10	(106)	7	(183)	8
U.P.	(30)	3	(46)	0	(76)	1
Total	(273)	9	(357)	5	(630)	7
	$x^2 = 24.9$, df = 7 $p<.01$		x^2 not significant		x^2 not significant	

The above results indicate that it was indeed the freshman distribution of IDCs at each school that was highly related to the proportion of students changing to Categories 1-3. If there were evidence of differential institutional impact, it should have been apparent not only in the total proportions changing to Categories 1-3 (Table 33) but also in those who began as freshmen in Categories 4-5 (Table 34) and/or Categories 6-8 (Table 35).

The one bit of evidence for institutional impact was the finding reported that a higher percentage of Swarthmore students of initially low commitment than students in the other institutions changed to the top category. It would be interesting to discover how the students who changed from Categories 6-8 to Categories 1-3 differed in characteristics from those who did not change to the same extent. The nine students who changed did not differ significantly from the 28 who did not with respect to grade-point average, SAT verbal and mathematical scores, or freshman personality characteristics (OPI scores). In fact, the only difference was in major fields. Thirty-six percent of the non-changers were majoring in engineering or the physical sciences, and none of the changers was in these fields.* However, major field was related to change at Swarthmore only in the case of students initially low on IDC (6-8); it was not related to change from Categories 4-5 to 1-3.

Another analysis that attempted to gather evidence for differential institutional impact focused on those initially in Categories 1-3 to discover what proportion of these students were still in these categories as seniors, and whether "defection" was related to institution attended. This analysis may have the advantage of not being as dependent on the total freshman IDC distribution as was the preceding analysis, which focused on change *into* Categories 1-3.

The findings were that 68 percent of the students who as freshmen were in the top three categories were still there at the end of four years (Table 36), with no relationship apparent between the proportion remaining in these categories and school attended. This was consistent with the previous results; there was again no

Table 36

STUDENTS IN IDC CATEGORIES 1-3 BOTH AS FRESHMEN AND SENIORS, BY SCHOOL AND SEX, IN PERCENTAGES

	Senior Men		*Senior Women*		*Seniors*	
School	*(N) in 1-3 as Freshmen*	*% remaining in 1-3*	*(N) in 1-3 as Freshmen*	*% remaining in 1-3*	*(N) in 1-3 as Freshmen*	*% remaining in 1-3*
Antioch	(20)	50	(24)	79	(44)	66
Reed	(24)	62	(10)	60	(34)	62
Swarthmore	(25)	76	(29)	72	(54)	74
S.F. State	(3)	100	(2)	50	(5)	80
U.C.	(26)	73	(19)	68	(45)	71
U.O.P.	(3)	100	(3)	67	(6)	67
St. Olaf	(8)	50	(10)	60	(18)	56
U.P.	(0)	-	(1)	-	(1)	0
Total	(109)	67	(98)	70	(207)	68
	x^2 not significant		x^2 not significant		x^2 not significant	

*Chi-square–Yates' correction = 4.42, df=1, p .01.

evidence for institutional impact (with the possible exception of the subgroup at Swarthmore).

At this point it might be mentioned that if one were willing to drop the statistical criteria of significance (we are not) and simply take the above data at face value, it is possible to discern evidence for institutional impact. For example, in all of the analyses presented in Tables 33, 34, 35, and 36, it will be noted that Swarthmore consistently showed an above-average proportion changing to, or remaining in, Categories 1-3, while Portland consistently showed a below-average proportion changing to, or remaining in, Categories 1-3.

General Change in Intellectual Disposition

The foregoing analyses concerned with change to IDCs 1, 2, and 3 from lower categories did not consider the change which occurred across the total IDC distribution. The following analyses will be based on comparisons between schools of the proportions of students at each institution who became *less* intellectually oriented to the extent of at least one IDC level, the proportions who *maintained* their intellectual disposition (IDC) classification from the freshman to the senior year, and the proportions who became *more* intellectually disposed—again, by at least one category.

This analysis of individuals identified as falling in the above three groups (decreased, maintained, increased) indicates that 18 percent of the total sample became less intellectually disposed, 32 percent maintained their orientation, and 50 percent became more intellectually oriented (Table 37). Results such as these, with only 50 percent moving up one or more categories, provide one of the clues to why so many earlier studies reported only minimal change for groups on most measured characteristics.

The percentages in the "increase" classification were approximately 50 at all institutions except Reed, where only 31 percent moved to a higher category. Although the results in Table 37 indicate a significant difference across schools for the percent decreasing by at least one IDC category, when these data were analyzed within the freshman IDC levels—1, 2, 3; 4, 5; 6, 7, 8 (not presented here in tabular form)—there were no significant differences between schools. This would suggest that the data in Table 37 were a reflection of the freshman IDC distribution–ceiling and regression effects–and not of institutional impact.

It would seem, then, that as seniors the great majority of the students (Table 37) found the world of ideas and scholarship either as appealing as they had as freshmen or somewhat more appealing (increase of at least one IDC). This increase, however, is pervasive throughout the total sample and is not related to institution attended.

Table 37

STUDENTS WHO INCREASED OR DECREASED AT LEAST ONE IDC CATEGORY OR MAINTAINED THE SAME CATEGORY FROM THE FRESHMAN TO THE SENIOR YEAR, BY SCHOOL, IN PERCENTAGES

School	*Increased* *(N)*		*Decreased* *(N)*		*Maintained* *(N)*		*(N)*
Antioch	(83)	52	(37)	24	(37)	24	(157)
Reed	(17)	31	(22)	41	(15)	28	(54)
Swarthmore	(82)	50	(39)	24	(44)	26	(165)
S.F. State	(35)	50	(9)	13	(26)	37	(70)
U.C.	(180)	51	(59)	17	(117)	32	(356)
U.O.P.	(54)	50	(18)	17	(36)	33	(108)
St. Olaf	(151)	52	(38)	13	(99)	35	(288)
U.P.	(45)	51	(11)	12	(33)	37	(89)
Total	(647)	50	(233)	18	(407)	32	(1287)

Chi square = 39.9, df = 14, p<.01

Results of Marascuilo's (1966) multiple comparison procedure:

Students decreasing:

	Reed	Swarthmore	Antioch	U.C.	U.O.P.	S.F. State	St. Olaf	U.P.
Percent	41	24	24	17	17	13	13	12

Any percentages joined by the same line are not significantly (.05) different.

Average Difference Scores of IDC

To this point many of the criteria for change have been dichotomized (e.g., change/not change to Categories 1-3; change/not change at least one IDC). To treat the data in such a way that *all* data were explicitly utilized, analyses of average change scores were based on the change scores of each person in the sample. The following results may be more sensitive with respect to detecting institutional impact; but the general expectation is that these analyses will be consistent with the preceding results.

Reference to the entries at the bottom of Table 38* show that in the total sample, students at San Francisco (-.71) and St. Olaf (-.68) increased their average intellectual orientation more than those at Reed (.20). These results, however, appear once again to be in part a reflection of initial (i.e., freshman) level; students initially high gained less and those initially low gained most. Ceiling and regression effects are undoubtedly involved. Analyses of mean difference scores by freshman IDC level revealed no significant institutional differences for those initially in Categories 1-3, and none for those initially in Categories 4-5. But there were significant differences in average change scores among institutions for the students who were in Categories 6-8 as freshmen (Table 38). Swarthmore (-1.35) and Antioch (-1.24) students on the whole developed in intellectual interest more than did the total sample of initially low students (-.73). Portland students, on the other hand, changed only -.58 points. Parallel analyses by sex showed that for men there were no relationships, at any level or in the total group, between average IDC change and institution attended. The only significant difference among schools in the case of women was obtained for those initially in Categories 6-8 (Table 38). Women at Swarthmore (-1.64), Antioch (-1.31), and Reed (-1.00) changed more than the total sample (-.80), and women at Portland changed less (-.52).

These results are indeed consistent with the previous analyses, and they do not provide any additional compelling evidence of differential impact of the various institutions.

Summary of IDC Analyses

In the total sample there was a general increase in scholarly, intellectual interests over four years. This was evidenced by the increase of students in IDCs 1-3 from 16 to 27 percent and a decrease of students in Categories 6-8 from 49 to 33 percent (Table 32).

***Negative values here represent an increase in strength of intellectual interests.**

Having established that there was change in intellectual commitment over four years, a search was made for evidence of differential institutional impact (i.e., amount of change as related to institution attended). The evidence was at worst non-existent and at best sparse. What at first appeared to be evidence for institutional impact (Table 33), on further analysis was seen to be a reflection

Table 38

MEAN IDC CHANGE SCORES[1] BY FRESHMAN IDC CATEGORY AND SIGNIFICANT F VALUES

Freshman IDC		*Antioch*	*Reed*	*Swarth-more*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Analysis of Variance*
					MEN					
1-3	N	20	24	25	3	26	3	8	0	
	$\bar{X}$	.75	.83	.20	-.33	.35	.33	.88	--	ns
4-5	N	45	10	32	6	76	10	39	5	
	$\bar{X}$	-.71	-.90	-.84	-.83	-.53	.00	-.64	-.80	ns
6-8	N	21	7	23	12	72	31	77	30	
	$\bar{X}$	-1.19	-.86	-1.17	-.83	-.92	-.77	-.92	-.67	ns
Total	N	86	41	80	21	174	44	124	35	
	$\bar{X}$	-.49	.12	-.61	-.76	-.56	-.52	-.71	-.69	ns
					WOMEN					
1-3	N	24	10	29	2	19	3	10	1	
	$\bar{X}$	-.04	.90	.38	-.50	.68	.67	.70	1.00	ns
4-5	N	31	1	42	11	71	16	48	7	
	$\bar{X}$	-.45	-1.00	-.76	-.18	-.58	-.25	-.48	-.57	ns
6-8	N	16	2	14	36	92	45	106	46	F = 2.37
	$\bar{X}$	-1.31	-1.00	-1.64	-.86	-.67	-.69	-.87	-.52	df = 7/349 $p<.05$
Total	N	71	13	85	49	182	64	164	54	
	$\bar{X}$	-.51	+.46	-.52	-.69	-.49	-.52	-.66	-.50	ns
					TOTAL					
1-3	N	44	34	54	5	45	6	18	1	
	$\bar{X}$	+.32	+.85	+.30	-.40	+.49	+.50	+.78	+1.00	ns
4-5	N	76	11	74	17	147	26	87	12	
	$\bar{X}$	-.61	-.91	-.79	-.41	-.55	-.15	-.55	-.67	ns
6-8	N	37	9	37	48	164	76	183	76	F = 11.56
	$\bar{X}$	-1.24	-.89	-1.35	-.85	-.78	-.72	-.89	-.58	df = 7/722 $p<.01$
Total	N	157	54	165	70	356	108	288	89	
	$\bar{X}$	-.50	+.20	-.56	-.71	-.53	-.52	-.68	-.57	F = 3.37 df = 7/1279 $p<.01$

[1] Negative change scores represent an increase in intellectual interests, inasmuch as the highest category has a value of one and the lowest a value of eight.

of the different freshman IDC distributions at the eight schools (Tables 34, 35, 36).

There was some evidence to suggest that Swarthmore students initially low in IDC changed more than students attending the other schools who were also low in this measure as freshmen.

When mean difference scores on IDC were analyzed, essentially the same results as summarized above were obtained (Table 38).

Finally, it was suggested that if statistical criteria of significance were overlooked, there was a consistent picture of differential impact showing that Swarthmore students made the greatest change to intellectual commitment while Portland students made the least. However, in view of the small samples sometimes involved and the lack of statistical significance, this evidence is presented as tentative and suggestive only.

It would seem, then, that the great majority of students (Table 37) found the world of ideas and scholarship at least as appealing or somewhat more appealing (as shown by moving up one IDC) as seniors than as freshmen. This change appeared as a pervasive trend which held for the entire sample irrespective of school attended. This encouraging finding of positive change toward greater intellectual interest does not mean, however, that most students graduated from these schools with an above-average or strong intellectual commitment. In fact, as indicated in Table 32, only 27 percent of all students were classified as having a markedly above-average orientation (Categories 1-3) at the time they were about to be graduated.

CHANGES ON SPECIFIC SCALES RELATED TO INTELLECTUAL ORIENTATION

When IDCs and groupings were analyzed for differential change across the eight institutions, evidence for differential change was minimal. In view of the coarse nature of the IDC levels, however, this lack of differential change was not surprising. To reduce subtle individual differences in change to the eight broad categories of IDC is to ignore a considerable amount of data, and change data were analyzed, therefore, for the six individual OPI scales on which IDC was based. As with the IDC section, the major focus was on differential change across schools.

Four of the six scales used to measure IDC dealt with aspects of intellectual interests and attitudes quite explicitly (TI, TO, Es, and Co) and two focused on liberal, nonauthoritarian attitudes (Au and RL). In addition, change was also analyzed on two measures dealing with social-emotional adjustment (IE and SF). The relevance of these social-emotional adjustment measures to intellectual interests and functioning was discussed in Chapter V.

Of the many technical problems besetting the measurement of change, two must be met if artificial results are to be minimized. The first of these is frequently referred to as a ceiling (or floor) effect and refers to the fact that a person who obtains the maximum (or minimum) score on a first testing cannot show a measured increase (or decrease) in score even though his relevant attitudes, interests, and values may have changed markedly. Since a minority of students studied obtained a maximum or minimum score on any scale, it might seem that the ceiling or floor effect would be of minor concern. However, this effect occurs in scores *near* the maximum or minimum as well as *at* these points. That is, the scores tend to truncate in the upper and lower *ranges* of possible scores and not suddenly at the boundary points (Anastasi, 1968).

A second problem relevant to the measurement of change is termed the regression effect. This refers to the fact that persons initially low on a test will tend to average nearer the mean (higher) on retest and those initially high will also tend to average nearer the mean (lower) on retest simply owing to unreliable measurement and not to any "true" change in the characteristic measured.

To cope with these problems of the measurement of change, the analysis of raw score change was approached with two questions in mind. One type of analysis is of the average change scores of the total sample at each of the eight schools, and the other is of average change scores in terms of these levels of freshman scores. Specifically, the question here is whether the typical or average student at, say, Reed changed more or less than the typical or average student at, say, Portland. Since this question is concerned with changes in average scores at the eight schools, it is not necessary to be concerned with regression to the institution mean (since that mean is what is being dealt with). However, a ceiling (or floor) effect has to be recognized for those schools with initially high (or low) scores; further, regression toward the mean of all institutions (the total sample) has to be reckoned with. Those schools with initially high average scores, in comparison with the average score of the total sample, would be expected to decrease their average score on retest simply owing to unreliable measurement, just as those schools with initially low averages would be expected to increase their average scores because of unreliable measurement.

Although ceiling or floor and regression effects could not be estimated independently, the magnitude and direction of change in school means owing to unreliable measurement of the freshman scores has been taken into account. These estimates are presented in the various tables along with the average raw difference scores. In view of the high reliabilities of the various measures in the total sample, the small magnitude of the estimated regression effects is reasonable; generally speaking, regression does not alter the basic findings obtained with simple raw difference scores. While it is of value and interest to know in fact whether there was differential change among typical students across schools, a problem of interpretation arises in that the average student at one school may be very different from the average student at another school on a given OPI measure. Consequently, these differential changes can be described, but what can be inferred from them about the influence of institutional and/or student characteristics is difficult to say.

The second type of analysis focused on average raw difference scores according to three levels of freshman scores. The first level was defined as a freshman score at least one standard deviation above the average; the second was defined as a freshman score falling within the range of scores one standard deviation above and one standard deviation below the mean; and the third level was defined as a freshman score at least one standard deviation below the mean.

The three levels were defined in terms of the freshman mean and standard deviation of the total sample of men for male subjects and in terms of the mean and standard deviation of the total sample of women for female subjects. Thus, it should be noted that direct comparisons of the sexes by freshman level were not appropriate in most cases. It was hoped that the analysis of raw change scores by these three levels of freshman scores would render differential ceiling (or floor) effects and regression to the sample mean approximately equivalent across schools for a given freshman level. However, another problem emerged here. In these analyses, regression to the institution mean owing to unreliable measurement was involved. For example, with respect to Religious Liberalism (RL), in selecting those students identified as average in terms of the total sample (who scored within the range of one standard deviation above and below the mean of freshmen) a group of Reed men were selected who were at the 26th percentile of Reed men, and at the other extreme a group of St. Olaf men were selected who were at the 73rd percentile of St. Olaf men. It was expected that the Reed men identified as of average level on RL would regress toward the Reed mean (increase) upon retest simply owing to unreliable measurement, and that for the same reason the St. Olaf students identified as of average level on RL would decrease their mean scores on retest. In evaluating the results from the analyses of types of students, one must be aware of these differential regression effects across schools and attempt to evaluate the obtained results in light of these effects. Estimated magnitude and direction of regression have been entered in all tables presenting the analyses of raw difference scores by freshman level whenever the analysis for a given level showed significant differences between schools.

If the differential regression to school means can be taken into account at least subjectively, the analysis of raw difference scores, according to the three levels of freshman scores, allows for a clearer determination of differential institutional effects than the first approach, which focused on the means of the total samples at each institution. That is, the major purpose of the analysis by three levels of freshman scores was to study, for differential change, measurably comparable types of students (above average, average, or below average) attending different schools. Presumably, this emphasized the different contexts of the eight schools more than initial freshman level.

In the above approaches to the analyses of raw difference scores, no matter what is done to these scores or how they are treated, it is not possible to equate the various groups in terms of the psychological meaning of the scores, even though it is possible to equate them in terms of the numerical value of the scores. Since it is the psychological meaning which is in question, it would indeed be misleading to claim that anything but a quantitative control for a given attitude or interest had been accomplished. It is not possible to approximate an experimental study in which differences in attitudes, etc., across treatments (schools) are minimized or ruled out by having the experimenter randomly assign students to treatments. No; here the students have assigned themselves to the treatments in a non-random manner. Hence, even if, for example, a sample of Jews were matched with a sample of Catholics on Religious Liberalism scores, at a given score level, Jews who were relatively conservative in a religious sense would be compared both with other Jews and with Catholics who were relatively liberal with respect to other Catholics. Also, one does not transform a Jew into a gentile or excommunicate a Catholic by adjusting his score so as to make it numerically equivalent; the psychological differences are not gotten rid of by equating scores in a quantitative sense.

Changes in Intellectual Interests and Attitudes–By Sex

The sexes have been analyzed separately because of known sex differences on the various measures and because of the assumption that the meaning of a college education, hence its effects, may be different for men and women.

THINKING INTROVERSION (TI)

Men. As may be seen from Table 39, men attending each institution, with the exception of those at Reed, increased their average score significantly over four years of college or university attendance, on this measure of interest in intellectual, scholarly pursuits. For the eight samples of men, there was no change in variability on this measure over four years. Thus, except for those at Reed, men attending the various schools became more intellectually oriented, on the average, over four years, although the magnitude of individual differences in such orientation remained approximately the same. This lack of change in variability would suggest that at a given institution where change occurred, it was manifested as a general upward shift in the total distribution of scores and not as a converging or diverging of scores on the part of those who were at the different extremes to begin with.

In light of the major purpose of the present study, the questions of *differential* change across schools is more important than the results above. The first question concerning differential

Table 39

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND *t* TESTS ON THINKING INTROVERSION, BY SCHOOL AND SEX, IN PERCENTAGES

		Means			*Standard Deviations*			
School	*(N)*	*Freshmen*	*Seniors*	*t*	*Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	37.9	40.8	3.18	9.0	10.1	ns	.61
Reed	(41)	43.7	43.4	ns	9.4	7.7	ns	.55
Swarthmore	(80)	38.8	41.9	2.92	9.9	9.8	ns	.53
S.F. State	(21)	34.2	39.9	3.99	9.8	11.3	ns	.84
U.C.	(174)	35.5	39.6	6.97	9.6	9.7	ns	.68
U.O.P.	(44)	29.9	33.3	2.34	10.0	11.0	ns	.61
St. Olaf	(124)	33.8	37.5	5.03	9.0	9.5	ns	.62
U.P.	(35)	26.2	32.8	5.79	8.9	8.4	ns	.70
Total	(605)	35.8	39.3	11.18	10.2	10.1	ns	.66
				WOMEN				
Antioch	(71)	41.5	42.7	ns	9.1	9.3	ns	.71
Reed	(13)	47.1	45.0	ns	7.0	6.1	ns	.47
Swarthmore	(85)	42.3	44.4	2.35	8.0	8.4	ns	.52
S.F. State	(49)	29.4	35.0	4.62	9.5	10.7	ns	.58
U.C.	(182)	35.0	38.7	6.09	9.5	9.9	ns	.69
U.O.P.	(64)	33.2	36.2	3.74	9.0	8.6	ns	.71
St. Olaf	(164)	35.1	38.1	5.79	9.4	8.4	-2.39	.64
U.P.	(54)	29.3	33.4	3.74	8.6	9.4	ns	.59
Total	(682)	36.0	39.0	10.23	9.9	9.7	ns	.70

change is whether the "typical" students at one school changed more or less than the "typical" students at another, and this is answered by comparing the eight schools in terms of the average change on the total sample of men at each institution. The data presented in Table 40 indicate that the total sample of men attending Portland and San Francisco changed most and those at Antioch and Reed least over four years. These substantial differences in average change scores are not modified appreciably when the phenomenon of differential regression is subjectively (i.e., not statistically) taken into account.

Table 40

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR SCORES ON THINKING INTROVERSION BY SCHOOL AND SEX, IN PERCENTAGES[a]

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
					MEN					
High (46+)	N	23	23	23	3	30	3	16	0	ns
	$\bar{X}$	-2.6	-4.5	-.9	2.0	-1.3	-2.3	1.2	-	
Average (45-26)	N	53	16	50	13	117	25	84	16	ns
	$\bar{X}$	4.4	4.6	3.2	7.8	4.5	.6	2.8	2.5	
Low (25-)	N	10	2	7	5	27	16	24	19	ns
	$\bar{X}$	7.4	-	15.3	2.2	8.3	8.7	8.3	10.1	
Total	N	86	41	80	21	174	44	124	35	F = 2.40,
	$\bar{X}$	2.9	-.3	3.1	5.7	4.1	3.4	3.7	6.6	df = 7/597,
	E.R.[b]	-.1	-.5	-.2	.1	.0	.4	.1	.6	p<.05
					WOMEN					
High (46+)	N	27	9	32	3	31	4	19	2	ns
	$\bar{X}$	-1.1	-3.7	-2.3	5.3	-2.8	-.2	-1.8	-	
Average (45-27)	N	39	4	51	26	115	48	119	31	ns
	$\bar{X}$	2.3	1.5	4.8	2.2	4.6	2.3	2.8	3.5	
Low (26-)	N	5	0	2	20	36	12	26	21	ns
	$\bar{X}$	5.0	-	-	10.1	6.5	6.6	7.3	5.7	
Total	N	71	13	85	49	182	64	164	54	F = 2.90,
	$\bar{X}$	1.2	-2.1	2.1	5.6	3.7	3.0	3.0	4.1	df = 7/674,
	E.R.[b]	-.3	-.8	-.4	.4	.1	.2	.1	.5	p<.01

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

As previously noted, the above comparisons were based on samples that had different average scores as freshmen. A second question, then, is whether there was differential change across schools for a given type of student (i.e., a given freshman score level on the measure). There were no significant differences in average change scores across schools when analyses were made by the three levels of freshman scores. Although differences by freshman level were not statistically significant, it is notable that for the two total samples showing the largest change on TI, Portland men initially low on TI changed appreciably, while San Francisco men who were initially high and those who were average also changed appreciably over four years. Even in the absence of statistical significance, the data presented in Table 40 suggest that at San Francisco, TI changes were a pervasive phenomenon, while at Portland it was primarily those who were initially low in intellectual interests who appreciably changed their perspective.

Consistent with the results presented on IDC, the largest average difference score in Table 40 was obtained by Swarthmore men who were initially low. (Proportionately more students at Swarthmore than at any of the other colleges shifted from IDCs 6, 7, and 8 to Categories 1, 2, and 3.)

Finally, the incomplete information conveyed by mean scores is clearly illustrated by the Reed men. The total sample of Reed men was said not to have changed significantly on TI over four years (Table 39). But Table 40 shows that this is a reflection of the fact that about half of the Reed sample showed a decrease in mean score and about one-half showed an increase of the same magnitude.

Women. As Table 39 shows, with the exception of women attending Antioch and Reed, there were significant increases in average score on TI at the various schools over four years. The only significant change in variability occurred at St. Olaf, where the women were more homogeneous as seniors than as freshmen (a decrease in variability). This decrease in variability is probably a reflection of the fact that 13 of the 19 students initially high decreased their scores and that 22 of the 26 students initially low increased their scores (not shown in tables). It appears, then, that at St. Olaf there was a leveling effect of individual differences concomitant with the average increase in scores on TI.

With respect to *differential* change (Table 40), the "typical" women at San Francisco, Portland, and Berkeley changed most, while the total sample of women at Swarthmore, Antioch, and Reed changed least. To find that the three select liberal arts college samples showed the least amount of average change on TI does not necessarily mean that these schools somehow deterred the development of intellectual interests. After all, the women attending these three schools were *already* interested in the world of ideas as freshmen; therefore, there may have been more occasion for an enrichment or development of these interests rather than for an appreciable change in them. As with the men, the magnitude and direction of the estimated regression effects at each school did not alter the above results.

Also consistent with the results based on men, there were no statistically reliable differential change effects across schools by freshman level on TI. It was only at San Francisco that women at all three levels of freshman scores increased their average scores over four years. The most notable change, however, occurred for San Francisco women initially low on TI.

The above results on TI, therefore, indicate little or no evidence of institutional impact. The best explanation that presents itself, particularly though not exclusively regarding Reed, is that initial level of freshman scores—and the corresponding regression and/or ceiling (floor) effects—adequately account for the differential change across total samples from each school. This is brought out most clearly by the lack of significant differences across schools for each level of freshman score. Had there been an institutional effect over and beyond initial level, it would have become evident at one or more of the three levels of freshman scores.

THEORETICAL ORIENTATION (TO)

Men. The mean score on TO increased significantly for men only at San Francisco State, University of the Pacific, and University of Portland (Table 41). Only at Portland was there a change in variability of scores; senior men were more heterogeneous than freshmen. This is probably, in part, a reflection of the fact that three of the 19 men who were initially average changed to the high category while nine of the 16 men initially low were still low as seniors. (These results are not tabulated.) No Portland men were in the high category as freshmen.

There were no significant differences between schools with respect to average change on TO either for the total sample of men at each school or by freshman level (Table 42). This is not surprising in view of the minimal change on this measure for men at the several schools.

Table 41

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND *t* TESTS ON THEORETICAL ORIENTATION SCORES, BY SCHOOL AND SEX, IN PERCENTAGES

		Means			*Standard Deviations*			
School	*(N)*	*Freshmen*	*Seniors*	*t*	*Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	21.0	21.4	ns	5.0	4.7	ns	.41
Reed	(41)	25.2	24.4	ns	4.9	4.1	ns	.38
Swarthmore	(80)	22.6	22.3	ns	4.6	4.8	ns	.54
S.F. State	(21)	18.6	20.6	2.57	5.4	5.1	ns	.74
U.C.	(174)	21.3	21.7	ns	4.8	4.6	ns	.53
U.O.P.	(44)	17.2	18.8	2.39	5.1	5.4	ns	.68
St. Olaf	(124)	18.8	19.3	ns	4.8	4.6	ns	.63
U.P.	(35)	16.0	18.0	2.75	3.6	5.0	3.11	.62
Total	(605)	20.6	21.1	2.74	5.4	5.1	-2.25	.61
				WOMEN				
Antioch	(71)	19.7	21.0	2.46	4.6	5.5	2.44	.65
Reed	(13)	24.2	21.8	-2.04	3.7	4.4	ns	.50
Swarthmore	(85)	20.6	21.0	ns	5.0	4.8	ns	.41
S.F. State	(49)	13.9	16.9	4.84	5.0	5.9	ns	.43
U.C.	(182)	17.7	18.6	2.51	5.0	4.8	ns	.64
U.O.P.	(64)	16.0	16.8	ns	4.6	4.7	ns	.56
St. Olaf	(164)	16.3	17.1	2.25	6.3	4.7	-5.30	.49
U.P.	(54)	14.1	14.4	ns	4.6	5.0	ns	.54
Total	(682)	17.4	18.3	4.87	5.5	5.5	ns	.65

Women. The average score on TO changed significantly over four years for women attending all schools except Swarthmore, University of the Pacific, and University of Portland (Table 41). In addition, women attending Reed showed a significant decrease in interest in science and problem solving. There were changes in variability at Antioch (increased) and St. Olaf (decreased). At Antioch two-thirds of the 21 students initially high increased their scores; at St. Olaf, seven of the 17 students initially high decreased their scores and 13 of the 19 students initially low increased their

Table 42

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR FRESHMAN SCORES ON THEORETICAL ORIENTATION, BY SCHOOL AND SEX, IN PERCENTAGES[a]

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
					MEN					
High (26+)	N	18	24	24	2	40	2	10	0	ns
	$\bar{X}$	-3.5	-1.8	-2.5	-	-2.5	-	-2.6	-	
Average (25-16)	N	56	15	49	13	113	26	82	19	ns
	$\bar{X}$	.2	.0	.1	1.5	.5	1.0	.1	1.8	
Low (15-)	N	12	2	7	6	21	16	32	16	ns
	$\bar{X}$	7.2	-	5.0	3.8	5.1	3.0	2.6	2.2	
Total	N	86	41	80	21	174	44	124	35	ns
	$\bar{X}$	.4	-.8	-.3	2.0	.4	1.6	.5	2.0	
					WOMEN					
High (23+)	N	21	10	35	2	34	6	17	1	ns
	$\bar{X}$	.4	-3.4	-2.3	-	-2.4	-2.0	-1.8	-	
Average (22-13)	N	46	3	44	27	123	43	98	34	F = 2.29,
	$\bar{X}$	1.3	1.0	1.9	2.8	1.2	.4	.2	-.8	df = 7/410,
	E.R.[b]	.5	1.1	.3	-.4	.0	-.2	-.1	-.5	p<.05
Low (12-)	N	4	0	6	20	25	15	49	19	ns
	$\bar{X}$	5.8	-	5.5	3.6	3.6	3.0	2.8	2.4	
Total	N	71	13	85	49	182	64	164	54	F = 2.91,
	$\bar{X}$	1.3	-2.4	.4	3.0	.9	.8	.8	.3	df = 7/674
	E.R.[b]	-.3	-.9	-.4	.5	.0	.2	.1	.4	p<.01

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

scores on TO (not tabulated). Women who stayed at San Francisco for four years changed most and women who persisted at Reed changed least (Table 42). These results appear to obtain over and above the estimated magnitude of the differential regression effects at the eight schools.

Table 42 further shows that the analyses for differential change across schools by freshman level on TO indicate reliable results only for those who were initially average on that scale. These results indicate that women changed most at San Francisco and least at Portland. Reed women who were initially average on TO changed about as much as the average for the eight schools. However, compared with the estimated magnitude and direction of regression caused by unreliable measurement, these women at Reed did not change at all.

Not only did San Francisco seem to provide the occasions and possibilities for greater change in interest in science and problem solving (TO) for its women in general, it also evidently encouraged such change on the part of women who were average on this measure as freshmen. Portland women initially average apparently found little occasion to change their theoretical interests. Given an average interest in science, college experiences at San Francisco State, Swarthmore, and (to a degree) the University of California fostered an increase in such interest while experiences at Reed and Portland did not. This lack of change at Reed might have been a reflection of the anti-science bias of humanism, and the absence of change at Portland might have reflected the anti-science bias of Catholicism, although this latter interpretation does not hold for men at Portland who did in fact increase significantly on TO.

Since the results on TO indicated that for men at each school the change in average score that occurred over four years was minimal, the lack of evidence for differential change across schools was not surprising. TO was more of a "change" scale for women than for men. That San Francisco women, both the total sample and those initially average on TO, changed the largest amount suggests that there was an institutional impact on these women. That the less than average degree of change by Reed women shows up only in the total sample and not at each level of freshman score indicates that this less than average degree of change was primarily a function of the level of the freshman average score on TO at Reed.

ESTHETICISM (Es)

Men. Estheticism was also not a substantial change scale for men (Table 43). Average scores increased significantly only at Swarthmore, San Francisco State, the University of California, and St. Olaf. There was an increase in variability of Es scores at Antioch, the University of California, and St. Olaf (three of the four schools showing an increase in mean score). To shed some light on the change in score variability, it may be noted (not tabled) that at Antioch those at the two extreme initial levels became more

Table 43

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND *t* TESTS ON ESTHETICISM, BY SCHOOL AND SEX, IN PERCENTAGES

		Means			*Standard Deviations*			
School	*(N)*	*Freshmen*	*Seniors*	*t*	*Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	12.8	12.7	ns	4.4	5.1	2.00	.54
Reed	(41)	12.5	12.9	ns	6.0	5.1	ns	.66
Swarthmore	(80)	13.0	14.4	2.99	5.6	5.4	ns	.70
S.F. State	(21)	10.5	13.1	2.35	4.6	6.1	ns	.57
U.C.	(174)	10.4	11.7	3.87	5.0	5.5	2.21	.66
U.O.P.	(44)	9.9	10.3	ns	5.0	5.0	ns	.79
St. Olaf	(124)	10.0	12.3	5.70	4.5	5.2	2.53	.60
U.P.	(35)	8.7	8.6	ns	4.6	4.4	ns	.79
Total	(605)	11.0	12.1	6.46	5.1	5.4	2.41	.66
				WOMEN				
Antioch	(71)	15.5	16.7	2.85	4.5	3.7	-2.44	.55
Reed	(13)	18.0	17.5	ns	4.5	3.6	ns	.74
Swarthmore	(85)	15.0	17.0	5.16	4.1	4.1	ns	.63
S.F. State	(49)	12.2	13.5	2.21	4.7	4.6	ns	.60
U.C.	(182)	12.9	14.3	5.22	4.7	4.7	ns	.71
U.O.P.	(64)	12.2	13.4	2.53	4.4	5.1	2.06	.68
St. Olaf	(164)	13.7	15.7	6.47	6.5	3.9	-8.62	.38
U.P.	(54)	10.8	12.5	3.13	4.1	4.6	ns	.58
Total	(682)	13.4	14.9	10.77	4.6	4.6	ns	.65

divergent (10 of the 27 who were high increased; three of the eight who were low decreased). At the University of California and St. Olaf the increased variability might have reflected the fact that 16 of the 25 UC men and 10 of the 15 St. Olaf men initially high increased their scores.

Regarding the total samples, males attending San Francisco and St. Olaf changed the most on Es while those at Antioch and Portland changed least (Table 44). The results for San Francisco men are not attributable to any pervasive institutional effect because these men, when viewed by level of freshman score, did not differ significantly from the average amount of change for each of the levels. It should be noted, however, that San Francisco men were the only group to show positive average difference scores at all three levels of freshman score. The better than average gain score for the total sample of St. Olaf men was also found for St. Olaf men initially average on Es. This would suggest a possible institutional effect, at least for average students, and might have reflected the strong emphasis on music at St. Olaf. It should also be noted that both the total sample of men at Portland and those initially average changed less on Es than men at the other schools. It was surprising that the results at St. Olaf and the University of the Pacific were so divergent inasmuch as both institutions had strong departments of music. Perhaps music at Pacific was more formalized and restricted to majors, and hence less a pervasive aspect of the environment than at St. Olaf.

Women. From Table 43 it can be seen that the average score of women on Es increased significantly over four years at all schools except Reed The women at Pacific became more heterogeneous over four years, while those at Antioch and St. Olaf became more homogeneous. At Antioch, all eight women initially low on this measure increased their scores; at St. Olaf, 28 of the 30 women initially low increased their scores; and at Pacific, seven of the 20 initially low students decreased their scores. (These data are not tabulated.) The distributions of direction of change for the other two levels at these three schools were very comparable. It seems, therefore, that the change for those initially low on Es was primarily what was being reflected in the increased or decreased standard deviations.

It will be noted in Table 44 that the only differential change across schools occurred for women initially low on Es. Such women at St. Olaf, Antioch, and Swarthmore changed, on the average, more than five points, and those at the Universities of California and the Pacific changed less than three points.

These results do suggest a correlation between institution attended and change on Es, but only for women initially low on this interest measure. Again, it is interesting to note the difference

Table 44

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR FRESHMAN SCORES ON ESTHETICISM, BY SCHOOL AND SEX, IN PERCENTAGES[a]

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
					MEN					
High (16+)	N	27	13	32	3	25	6	15	3	ns
	$\bar{X}$	-2.0	-2.5	-1.1	3.3	-.3	-2.0	-.1	-1.7	
Average (15-7)	N	51	20	38	12	105	24	77	20	F = 2.22
	$\bar{X}$	.8	1.0	2.7	1.2	1.0	.3	2.3	-.5	df = 7/340
	E.R.[b]	.2	.1	.2	-.1	-.1	-.1	-.1	-.1	p<.05
Low (6-)	N	8	8	10	6	44	14	32	12	ns
	$\bar{X}$	1.0	3.6	4.5	5.2	2.8	1.5	3.3	.9	
Total	N	86	41	80	21	174	44	124	35	F = 3.47
	$\bar{X}$	-.1	.4	1.4	2.6	1.3	.4	2.3	-.1	df = 7/597
	E.R.[b]	-.2	-.2	-.2	.1	.1	.1	.1	.3	p<.01
					WOMEN					
High (18+)	N	27	7	32	8	39	8	25	3	ns
	$\bar{X}$	-.7	-2.0	.4	-1.2	-.8	-.8	-1.6	-.7	
Average (17-10)	N	36	6	43	25	97	36	109	32	ns
	$\bar{X}$	1.6	1.2	2.3	1.0	1.7	1.2	1.8	.9	
Low (9-)	N	8	0	10	16	46	20	30	19	F = 3.56
	$\bar{X}$	5.8	-	5.4	3.2	2.5	2.0	5.7	3.3	df = 6/142
	E.R.[b]	1.2	-	1.3	.7	.8	.8	.3	.8	p<.01
Total	N	71	13	85	49	182	64	164	54	ns
	$\bar{X}$	1.2	-.5	2.0	1.3	1.4	1.2	2.0	1.7	

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

in average change score between St. Olaf (5.7) and Pacific (2.0), both of which emphasized music in curricular and extracurricular activities.

COMPLEXITY (Co)

The data presented in Table 45 show an increased tolerance for ambiguity and fondness for novel ideas at all schools except Reed and Portland. Both as freshmen and seniors, Reed students averaged high on this measure and Portland students relatively low.

Table 45

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND *t* TESTS ON COMPLEXITY, BY SCHOOL AND SEX, IN PERCENTAGES

School	*(N)*	*Means* *Freshmen*	*Seniors*	*t*	*Standard Deviations* *Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	13.7	15.6	3.48	5.0	4.8	ns	.48
Reed	(41)	16.5	16.6	ns	5.6	4.0	-3.43	.61
Swarthmore	(80)	13.1	14.9	3.23	4.9	5.3	ns	.54
S.F. State	(21)	10.1	13.6	5.68	4.0	4.5	ns	.79
U.C.	(174)	11.8	13.8	5.64	4.5	5.0	2.04	.54
U.O.P.	(44)	10.2	11.2	1.78	4.3	4.5	ns	.64
St. Olaf	(124)	11.5	13.4	4.70	4.3	4.8	ns	.50
U.P.	(35)	9.9	10.4	ns	4.1	4.8	ns	.64
Total	(605)	12.2	13.9	9.20	4.8	5.0	ns	.58
				WOMEN				
Antioch	(71)	13.6	16.4	5.57	4.6	4.3	ns	.52
Reed	(13)	16.5	17.5	ns	5.5	5.6	ns	.79
Swarthmore	(85)	13.2	15.4	4.31	4.6	4.8	ns	.48
S.F. State	(49)	9.8	11.2	2.42	4.6	5.3	ns	.68
U.C.	(182)	11.1	12.4	4.51	4.6	4.8	ns	.61
U.O.P.	(64)	9.9	11.0	2.16	4.2	4.5	ns	.48
St. Olaf	(164)	11.0	12.8	5.66	6.6	4.7	-5.55	.37
U.P.	(54)	9.7	9.9	ns	3.9	4.5	ns	.35
Total	(682)	12.8	14.4	9.55	5.1	5.1	ns	.61

Although the mean score at Reed did not change, Reed men became more homogeneous on this measure over four years, and University of California men became more heterogeneous. At Reed, 16 of the 23 students initially average or low increased their scores, while 12 of the 18 students initially high decreased their scores. At the University of California, the increased heterogeneity seems to have occurred primarily among those initially high; 14 of these 28 students increased their scores (data not tabulated).

Analyses by total sample at each school and by freshman level indicated no significant differential change on Co for the men.

Table 46

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR FRESHMAN SCORES ON COMPLEXITY, BY SCHOOL AND SEX, IN PERCENTAGES[a]

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
					MEN					
High (17+)	N	29	18	18	2	28	1	16	1	ns
	$\bar{X}$	-.9	-2.2	-1.7	-	-.8	-	-2.0	-	
Average (16-3)	N	46	21	52	14	113	30	84	22	ns
	$\bar{X}$	2.8	1.8	2.5	3.6	1.9	.4	1.8	.2	
Low (7-)	N	11	2	10	5	33	13	24	12	ns
	$\bar{X}$	5.3	-	4.3	3.4	4.3	2.3	4.9	1.5	
Total	N	86	41	80	21	174	44	124	35	ns
	$\bar{X}$	1.9	.1	1.8	3.5	2.0	1.0	1.9	.5	
					WOMEN					
High (18+)	N	15	7	15	4	16	3	10	1	ns
	$\bar{X}$	-.7	1.3	-1.3	.2	-2.8	-1.0	-1.4	-	
Average (17-9)	N	50	5	61	26	104	37	98	29	F = 5.87
	$\bar{X}$	3.4	.8	2.6	.4	.9	-.6	1.4	-1.7	df = 7/402
	E.R.[b]	.2	1.2	.1	-.3	-.2	-.3	-.1	-.5	p<.01
Low (8-)	N	6	1	9	19	62	24	56	24	ns
	$\bar{X}$	6.3	-	5.3	2.9	2.9	4.0	3.0	2.6	
Total	N	71	13	85	49	182	64	164	54	F = 2.09
	$\bar{X}$	2.8	1.0	2.2	1.4	1.3	1.1	1.8	.2	df = 7/674
	E.R.[b]	-.1	-.4	.0	.4	.2	.3	.2	.4	p<.05

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

The mean scores on which these analyses were based are presented in Table 46.

Women. All groups increased their average scores on Co except women at Reed and at Portland (Table 45). St. Olaf women became more homogeneous over four years. This is primarily because of the increase in scores of St. Olaf women initially low on this measure.

Over four years, the total samples of women attending Antioch and Swarthmore changed most in Co, while those at Portland changed least. That women initially average on Co attending Antioch and Swarthmore changed most (increased), while this type of woman attending Portland decreased most in average change on Co is suggestive of an institutional effect—especially since the total sample of women at these three schools also represented the extreme degrees of change obtained.

Changes in Mean Scores—By Institution

Antioch. Men attending Antioch increased their average score on Thinking Introversion and Complexity over four years, and they became more heterogeneous on Estheticism. Antioch women, on the other hand, increased their mean score significantly on all measures but TI. Further, they showed greater heterogeneity on TO as seniors than as freshmen and less heterogeneity on Es.

Reed. Men attending Reed did not show a change in mean score on any of the four measures under consideration. However, they were more homogeneous as seniors in Co than as freshmen. Reed women also did not show an increase in mean score on any scale. They did, however, show a significant decrease in mean score on TO. (It must be remembered that Reed students were high on these measures both as freshmen and as seniors.)

Swarthmore. On all but TO, both men and women at Swarthmore increased their mean score over four years on three of the four measures. There was no change in scale variability for either sex.

San Francisco. Both men and women attending San Francisco State increased their average score on all four measures of intellectual interest from the freshman to the senior year.

University of California. Men attending the University of California changed on all measures except TO, and increased their variability in Es and Co. As at San Francisco State, women at UC changed on all four measures of intellectual interests.

University of the Pacific. Men and women at Pacific each changed on three measures, but men changed on all measures except Es, while women changed on all except TO. Women showed an increase in variability on Es over four years.

St. Olaf. Students attending St. Olaf showed the same mean change results as those obtained with UC students; men changed on all measures but TO, while women changed on all four scales. With respect to variability, the men increased on Es while the women decreased on all four measures.

University of Portland. Portland men increased their mean score on TI and TO over four years, while women increased their mean score on TI and Es.

Differential Change Discussed

The analyses of change in average score from the freshman to the senior year, summarized above by school, provide ample evidence of an increase in scholarly, intellectual interests in one form or another at all schools but Reed. However, as already noted, Reed students were so intellectually oriented as freshmen that there was little occasion for a marked change toward greater intellectual interests.

This evidence for an increase in intellectual interests is entirely consistent with the stated values of most faculty and such change is also among the educational objectives of most college and university communities.

With the exception of men initially average on Es, there was no convincing evidence for differential change for men attending the eight schools, and the evidence for differential change among the samples of women is also not striking—although it is more substantial than such evidence for men. Differences between schools are taken to be evidence for differential change when such differences are statistically significant (p = .05) as analyzed by freshman level of score (e.g., high, average, low). There were significant differences between mean change scores for women attending the various schools on TO, Es, and Co, specifically for women initially average on TO and Co as well as for those below average on Es.

For men initially average on Es, those at Swarthmore and St. Olaf increased their mean more than the average amount of change, while those at Pacific and Portland showed less than the average increase in esthetic interests over four years. There is some consistency between these results and those obtained for women initially low on Es; this type of woman at Swarthmore, St. Olaf, and Antioch showed a greater than average positive change, while those at Pacific changed less than average. Also correlated with the above were the results obtained with women initially average on Co. Swarthmore and Antioch women changed more than the average, and Pacific and Portland women initially average on Co changed less than the average for the total sample. Thus, for these groups on these scales, above-average change was associated with attendance at Swarthmore, St. Olaf, and Antioch, whereas less than average change was associated with attendance at Pacific and Portland. Finally, regarding TO, it was found that of women initially average on this measure, those at San Francisco State changed more than the average amount, and those at Portland changed less.

While these results offer some evidence for differential change across schools, the findings are not particularly striking. Could it be that the relatively weak evidence for differential change in intellectual interests stems from the fact that change in this domain is one of the specific aims of most faculty, and that one must look to the domains of liberal attitudes and personal adjustment for clearer evidence of institutional impact or differential change?

CHANGES IN LIBERAL, NONAUTHORITARIAN ATTITUDES

Virtually every study which has focused on change in authoritarianism and liberalism over the college years has produced results showing that students come to espouse more liberal, open-minded, and nonauthoritarian attitudes. The findings of both longitudinal and cross-sectional studies of college students have been consistent (Chickering, 1969; Feldman & Newcomb, 1969; Lehmann, 1963), and correlational studies also have indicated a relationship between amount of education and liberal attitudes (Adorno, 1950). Longitudinal evidence on noncollege samples (Trent & Medsker, 1968) indicates that the correlations between level of schooling and liberal attitudes may reflect, in part at least, the effect of education.

Although the sparse evidence available seems to indicate that increased liberalism over the post adolescent years is a common and pervasive aspect of general development, there is reason to believe that some experiences are more liberalizing than others. The results of the present study lead to the conclusion that different degrees of change toward more liberal attitudes are related to the institution attended.

The data on differential change between the eight institutions do support the inference that some experiences are more liberalizing than others. Differential degrees of change toward liberal, nonauthoritarian attitudes from institution to institution provide the basis for reinterpreting the findings for college to noncollege comparisons. It probably could be shown that some college experiences are no more liberalizing than some noncollege experiences, but it is also reasonable to assume that some noncollege experiences are more liberalizing than those had in college. Generally, one would expect, however, that college experience is more liberalizing than noncollege experience.

It should be emphasized that by experience one means experience-for-someone. A given experience, objectively defined, cannot be considered a potentially liberalizing one apart from the characteristics of the person who will undergo the experience; what results in one man's conservatism can result in another man's liberalism. Consequently, if it can be shown that students at college X change more on a measure of nonauthoritarianism than those at college Y, it is unjustifiable to conclude that college X, *in itself*, provided a more liberalizing experience than college Y. It is only possible to say that college X was more liberalizing for its kinds of students than college Y was for its students. For this there may be a range of possibilities: Some students cannot come to terms with the environment and drop out, or become defensively more constricted and less open. Others find familiar meanings not sufficiently different from previous experiences to stimulate them to change their attitudes. Still others find new meanings and possibilities in the college environment that dispose them to actualize these potentialities by reinterpreting their attitudes and interests. Such individual responses are subsumed in the data on mean change given below.

Two Measures of Liberalism–Au and RL

The results summarized here are based on two measures of liberalism. The first is the Autonomy scale (Au), which is basically a measure of nonauthoritarianism (a scale scored so that a high scorer is liberal and open-minded rather than authoritarian). The second is the Religious Liberalism scale (RL), a continuum of religious attitudes extending from fundamentalistic, dogmatic beliefs and attitudes through agnostic-atheistic attitudes. Correlations between RL and many other measures seem to justify the interpretation that high scorers on Religious Liberalism are liberal. Heist and Yonge (1968) found the relationships between RL and other attitudinal and behavioral indices of liberalism to be linear and positive.

Attention has been focused on these two measures because they reflect conservative-liberal attitudes of salience to both student and non-student groups. The Autonomy scale, with its structural heritage in the research on the authoritarian personality, is related to political and social tolerance and open-mindedness. Religious Liberalism is of central importance because religious attitudes, like philosophical perspectives, seem to persist–even in persons who outwardly or volitionally reject a religious past. These two measures also seem to tap attitudes and values relevant to the contemporary scene–witness the crises in social, political, and religious tolerance. The findings on change on these scales are summarized below.

AUTONOMY (Au)

Men. There was a significant increase in average scores on Au on the part of men who completed their work in all eight institutions (Table 47). This result is consistent with the findings of many previous studies. There was a decrease in the dispersion of scores within the groups at Antioch, Reed, Swarthmore, and the University of California, but an increase in the variability of the males at the University of Portland. Data not presented in tabular form here indicate that in each case a decrease in variability reflects

Table 47

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND *t* TESTS ON AUTONOMY, BY SCHOOL AND SEX, IN PERCENTAGES

		Means			*Standard Deviations*			
School	*(N)*	*Freshmen*	*Seniors*	*t*	*Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	24.7	31.7	11.31	6.3	5.3	-2.30	.52
Reed	(41)	29.1	32.9	5.85	5.6	4.1	-2.85	.52
Swarthmore	(80)	26.1	31.3	6.85	6.1	5.2	-2.02	.50
S.F. State	(21)	21.6	28.3	4.82	7.5	7.0	ns	.62
U.C.	(174)	23.9	29.2	12.88	6.6	6.0	-2.09	.64
U.O.P.	(44)	19.1	25.2	6.19	6.6	6.8	ns	.54
St. Olaf	(124)	19.1	25.3	12.61	5.8	5.9	ns	.56
U.P.	(35)	16.2	21.0	5.28	4.4	5.9	2.37	.48
Total	(605)	22.8	28.4	24.48	7.0	6.5	-3.12	.66
				WOMEN				
Antioch	(71)	26.4	34.0	9.68	6.5	4.2	-4.45	.29
Reed	(13)	30.8	34.0	2.34	4.5	3.7	ns	.27
Swarthmore	(85)	27.8	32.4	9.37	5.3	4.3	-2.89	.56
S.F. State	(49)	20.4	25.3	7.29	7.5	7.6	ns	.79
U.C.	(182)	22.7	28.6	15.41	6.8	5.8	-3.79	.68
U.O.P.	(64)	17.4	24.4	10.18	6.4	6.4	ns	.63
St. Olaf	(164)	18.5	26.4	20.33	6.8	5.5	-3.85	.50
U.P.	(54)	16.0	21.4	7.23	5.4	5.6	ns	.51
Total	(682)	21.6	27.9	30.85	7.3	6.6	-4.89	.71

the fact that a larger proportion of students who were initially average or low on the scale increased their scores than did those who were initially high. However, the increase in variability at Portland appears to reflect the movement of a small percentage of students into the "high" category—none of whom were so classified as freshmen.

The more important question centers on differential change according to institution attended, and the mean difference scores relevant to this question are presented in Table 48. The significant differences on average change scores for men initially average on this measure provide some evidence for differential change. Here it is noted that this type of man (i.e., average as a freshman) changed most at San Francisco State and Antioch and least at the Universities of the Pacific and Portland. A comparison of the mean change scores for those initially average and for the total sample at each school suggests that for the total sample at Reed and Swarthmore, the relatively small change may be attributable more to freshman level (large percent initially high) than to an institutional impact or its lack.

This comparison of similar students (i.e., average) at different institutions perhaps indicates more clearly than the other analyses the differences in liberal and conservative emphases at the two groups of schools. Aside from the statistical limitation imposed by the small samples involved, one possible reason that differential results were obtained for those initially in the middle range on Au but not for those initially high or low, is that these "average" students, as freshmen, had not yet polarized their liberal-conservative orientation and consequently were more receptive to the influence of peers and of the dominant college environment.

Women. As in the case of the men, the women at all eight schools significantly increased their average score on the Au scale (Table 47). Furthermore, women at Antioch, Swarthmore, the University of California, and St. Olaf became more homogeneous over four years. These relative decreases in variability among the senior groups can best be understood in light of the greater gain on the part of those initially average or low in comparison to those initially high on Au; those initially lower on these campuses moved up to become more comparable with those originally high. (These data concerning variability are not presented in tabular form.)

The evidence for differential change across schools was clear for women, as it was for men. There were significant differences between mean change scores for women initially average and low on Au. Not much stock will be placed in the results for those initially low for two reasons: the sample sizes were relatively small, and there were not enough women at Reed and Swarthmore who were initially low enough on Au to be included in the analysis. In the case of women who were average as freshmen, however, those at Antioch

Table 48

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR FRESHMAN SCORES ON AUTONOMY, BY SCHOOL AND SEX, IN PERCENTAGES[a]

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
					MEN					
High (30+)	N	19	18	28	4	40	3	5	0	ns
	$\overline{X}$	1.8	.8	-.0	-.8	1.7	-.3	1.2	-	
Average (29-17)	N	56	23	49	12	105	23	81	19	F = 3.06
	$\overline{X}$	7.7	6.2	6.1	8.6	5.3	4.2	5.1	3.7	df = 7/360
	E.R.[b]	.1	.5	.3	.0	.0	-.4	-.4	-1.0	p<.01
Low (16-)	N	11	0	3	5	29	18	38	16	ns
	$\overline{X}$	12.5	-	14.7	8.0	10.1	9.5	9.3	6.1	
Total	N	86	41	80	21	174	44	124	35	F = 2.68
	$\overline{X}$	7.0	3.8	4.2	6.7	5.3	6.1	6.2	4.8	df = 7/597
	E.R.[b]	-.2	-.6	-.3	.1	-.1	.4	.4	.6	p<.01
					WOMEN					
High (29+)	N	31	8	42	7	34	3	5	1	ns
	$\overline{X}$	2.7	.5	2.4	3.0	1.0	-.3	3.6	-	
Average (28-15)	N	37	5	43	31	130	42	117	31	F = 5.53
	$\overline{X}$	10.8	7.6	6.8	4.7	6.8	6.6	7.1	4.6	df = 7/428
	E.R.[b]	.3	.9	.6	-.1	.1	-.3	-.1	-.5	p<.01
Low (14-)	N	3	0	0	11	18	19	42	22	F = 4.52
	$\overline{X}$	18.7	-	-	6.6	8.8	8.9	10.9	6.6	df = 5/109
	E.R.[b]	3.0	-	-	.8	1.1	.9	.7	.8	p<.01
Total	N	71	13	85	49	182	64	164	54	F = 5.70
	$\overline{X}$	7.6	3.2	4.6	4.9	5.9	7.0	7.9	5.4	df = 7/674
	E.R.[b]	-.4	-.8	-.6	.1	-.1	.4	.3	.5	p<.01

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

changed most and those at San Francisco and Portland changed least. The results for those initially low were in essential agreement with the above reported results for women who were average as freshmen.

RELIGIOUS LIBERALISM (RL)

This measure has particular significance in the present study, not only because of the salient role religious attitudes play in the lives of many students, but also because four of the institutions are church affiliated in one sense or another.

Table 49

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND t TESTS ON RELIGIOUS LIBERALISM, BY SCHOOL AND SEX, IN PERCENTAGES

		Means			*Standard Deviations*			
School	*(N)*	*Freshmen*	*Seniors*	*t*	*Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	17.5	20.2	4.56	6.5	5.3	-2.87	.57
Reed	(41)	19.2	22.3	4.31	6.8	4.2	-5.07	.62
Swarthmore	(80)	17.0	21.0	6.53	6.6	5.1	-3.62	.59
S.F. State	(21)	13.7	18.7	4.37	5.8	6.1	ns	.61
U.C.	(174)	15.8	19.0	7.69	6.7	6.5	ns	.65
U.O.P.	(44)	13.5	15.9	3.27	5.7	5.5	ns	.62
St. Olaf	(124)	8.1	11.0	6.85	3.9	4.3	ns	.29
U.P.	(35)	8.6	8.6	ns	5.2	4.6	ns	.66
Total	(605)	14.2	17.2	13.35	7.0	6.9	ns	.71
				WOMEN				
Antioch	(71)	17.3	21.8	6.70	5.8	3.9	-4.33	.39
Reed	(13)	20.5	21.9	ns	3.3	2.5	ns	-.46
Swarthmore	(85)	17.2	21.0	7.83	5.7	4.8	-2.62	.64
S.F. State	(49)	11.1	13.8	4.53	5.8	5.8	ns	.74
U.C.	(182)	14.1	17.5	9.04	6.0	6.0	ns	.65
U.O.P.	(64)	10.5	14.0	5.85	4.6	4.8	ns	.47
St. Olaf	(164)	7.3	9.9	9.41	5.2	4.1	-3.63	.29
U.P.	(54)	5.3	6.3	2.53	2.6	2.6	ns	.42
Total	(682)	12.0	15.0	17.74	6.6	6.9	2.42	.77

Men. Reference to Table 49 will show that the men at all schools except the University of Portland increased their average score on the Religious Liberalism scale over four years. Men at Antioch, Reed, and Swarthmore became more homogeneous on this measure. As in the comparable finding on Autonomy, the greater homogeneity is primarily a reflection of the large proportion of increased scores on the part of those initially average and low on RL, as compared with those initially high (data not presented).

With respect to differential change across schools (Table 50), it can be seen that men who were average on RL as freshmen changed in different degrees depending on the institution attended. Specifically, Antioch, Reed, and Swarthmore men changed most, and the University of the Pacific, St. Olaf, and Portland men changed least. Although there were significant differences among those initially low on RL, the sample sizes were generally too small to place much stock in these results. The discrepancy between magnitude of change at each school for those initially average and for the total sample—particularly Antioch and Reed—can best be understood as an artifact of the freshman distribution of scores. Thus, in considering differential change, the results obtained for men who were average as freshmen ought to be given the greater consideration.

Women. Taken as total groups, women increased their average score on the RL scale at all schools except Reed (Table 49). At Antioch, Reed, Swarthmore, and St. Olaf, women showed a decrease in variability, but this drop was not significant for the small number at Reed, who were quite alike at entrance. As with the men, this decrease in the variation was primarily a reflection of the greater increase in scores on the part of those women initially average and low as compared with those initially high. (These data are not tabled.)

Mean change scores for women, analyzed on differential change, are presented in Table 50. As with men, there were significant differences on change scores for women initially average and low on RL, but these results should be considered tentatively because of the small samples and the absence of Antioch, Reed, and Swarthmore students from the analysis. Consequently, the evidence for differential change resides with women initially average on RL. Antioch, Reed, and Swarthmore women made more than an average change while St. Olaf and Portland women, all average scorers as freshmen, changed least. This is, of course, essentially what was obtained with the men. As with the men, it can be seen that a straightforward comparison of differences for the total sample at each school is not in order. Note, for example, the ranking of Reed women initially average (rank 2 in degree of change) and the ranking of all Reed women (rank 7 in degree of change).

Table 50

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR FRESHMAN SCORES ON RELIGIOUS LIBERALISM, BY SCHOOL AND SEX, IN PERCENTAGES[a]

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
						MEN				
High (21+)	N	37	21	31	4	52	5	2	2	ns
	$\bar{X}$	-1.3	.4	.0	2.8	-.3	-.2	-	-	
Average (20-8)	N	40	18	40	14	100	34	60	15	F = 7.22
	$\bar{X}$	5.9	5.9	5.7	5.1	4.3	2.2	1.8	-1.3	dr = 7/313
	E.R.[b]	.2	.3	.2	.0	.1	.0	-.5	-.2	p<.01
Low (7-)	N	9	2	9	3	22	5	62	18	F = 3.18
	$\bar{X}$	5.2	-	10.1	7.7	6.8	6.2	4.5	1.8	df = 6/121
	E.R.[b]	.9	-	.8	1.0	.8	1.7	.6	.4	p<.01
Total	N	86	41	80	21	174	44	124	35	F = 2.65
	$\bar{X}$	2.7	3.1	4.0	5.0	3.2	2.4	2.9	.0	df = 7/597
	E.R.[b]	-.2	-.3	-.2	.0	-.1	.0	.4	.3	p<.01
						WOMEN				
High (19+)	N	36	10	36	5	43	5	1	0	ns
	$\bar{X}$	.8	-.6	.6	-2.4	-.4	-.4	-	-	
Average (18-6)	N	33	3	47	35	125	50	106	20	F = 15.23
	$\bar{X}$	8.2	8.0	6.3	3.2	4.7	3.3	1.9	-.8	df = 7/411
	E.R.[b]	.4	1.4	.4	.0	.1	.0	-.1	-1.0	p<.01
Low (5-)	N	2	0	2	9	14	9	57	34	F = 3.51
	$\bar{X}$	-	-	-	3.7	4.1	6.8	3.7	2.0	df = 4/113
	E.R.[b]	-	-	-	.7	1.0	1.0	.3	.6	p<.05
Total	N	71	13	85	49	132	64	164	54	F = 3.89
	$\bar{X}$	4.5	1.4	3.8	2.7	3.4	3.5	2.6	1.0	df = 7/674
	E.R.[b]	-.4	-.6	-.4	.1	-.1	.1	.4	.5	p<.01

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

Because of the relative specifiability of the referent of the RL scores and because of the religious atmosphere at certain schools, the analyses of change on this measure offer a particularly good example of the reciprocal relationship between student and institutional characteristics. The religious atmosphere of the four schools with a moderate to strong religious affiliation might be seen to a large extent as a reflection of two related factors—the basic fundamentalist versus liberal stance of the church itself and the degree of affiliation between church and institution. With these two factors in mind, one can rank four schools, three with professed religious commitments, in terms of how liberal their religious climates may be:

School	*Religious Affiliation*	*Close Relationship*	*Liberal Climate (Rank)*
Swarthmore	Quaker (historically)	No	1
U. of the Pacific	Methodist	No	2
St. Olaf	Lutheran	Yes	3
U. of Portland	Catholic	Yes	4

This descriptive analysis was substantiated by the proportions of students who, in spontaneously enumerating distinctive characteristics of their institutions, mentioned their school's religious emphasis. No Swarthmore student mentioned it, and the largest proportions who did were at St. Olaf and the University of Portland.

The magnitude of the average freshman score (for both men and women) on the RL scale at each of the four schools was consistent with the ranking above. The processes of formal admission and/or student self-selection resulted in a strong relationship between the beliefs of the entering students and the religious atmosphere of the institution.

To what may one ascribe the differences in the amount of change in religious orientation from one school to another? Since student and institutional characteristics vary correlatively, and since magnitude of change at the four schools under discussion was related to their religious climate, to which is differential change to be attributed, school characteristics or initial student attributes? Most observers will conclude that it cannot be attributed to either alone.

But the possible effect of religious atmosphere may be discerned if one compares change in students with similar religious attitudes, as measured by the Religious Liberalism scale, who attended different schools. It has been shown in Table 42 that for students initially average on RL, the relationship between the amount of change and the "liberalism" of religious atmosphere increases in the case of both sexes. Students at Swarthmore who were initially average on RL became more liberal in religious attitudes than the students initially average who attended the University of Portland. With differences in initial religious orientation somewhat minimized (all average on RL) may one attribute differential change to the impacts of the varied institutional religious climates? The answer is a qualified yes. As an example, when viewed from the perspective implied in an initially average score on RL, the predominant atmosphere at Swarthmore, with respect to religion, was not particularly meaningful. To find such an atmosphere meaningful, therefore, required a change of perspective or attitude. The climate of a situation which is not particularly meaningful from one perspective may be the occasion, even the invitation, to change perspective in seeking the meaning of that situation and in coming to terms with it. If the student allows a situation to influence his attitudes and thus change them, the situation itself changes to a more meaningful, valuable one. And if a situation has influenced or is influencing the student's values, the student has to be seen as also having had an impact on the situation. This principle of reciprocal interaction is a function in all of our data, but it is less clearly seen with respect to the other measures, in part because of their more general reference, but especially because relevant aspects of the school climate cannot so objectively be identified.

In pursuing this interpretation of change on RL, it is useful to look particularly at the University of Portland. The religious atmosphere there was ranked as least liberal of the four schools under consideration; the entering students were generally low on the RL scale; and on the average, Portland students changed least over the four years on Religious Liberalism.

This relative lack of change at the University of Portland might have been related to the likelihood that Portland students found the religious atmosphere so congenial that they were not stimulated to change religious attitudes. The interpretation is complicated by the fact, however, that there was a tendency for the Portland students who initially scored average on RL to decrease their scores (profess "stronger" religious beliefs) over four years. Perhaps the reciprocal relationships between students' initial orientation and dominant religious climate vary at different levels of religious liberalism-conservatism. This is a concrete example of the point that the input-impact-output model is not linear but circular and transactional.

In summary, there was significant change on Autonomy at all schools for both men and women. Men attending each school, except Portland, showed a significant increase in Religious Liberalism, and women at all schools, except Reed, increased their average scores significantly.

There was also evidence for differential change for both men and women, and on both Au and RL. Men at San Francisco State and Antioch made an above-average change on Au, while men at Pacific, St. Olaf, and Portland changed less than average. Women at Antioch and Reed made an above-average change and those at San Francisco and Portland made less than an average change. Analysis across both sexes shows that attendance at Antioch was clearly related to above-average change on Au, while attendance at Portland was clearly related to less than average change on RL.

For both sexes, attendance at Antioch, Reed, and Swarthmore was related to greater than average change on RL, while attendance at St. Olaf and Portland was related to less than average change. In the above summary of differential change on Au and RL, student samples indicated as showing more or less than average change referred, for the most part, to students initially average on the measures under consideration. This is because the sample sizes for this type of student at the different schools were large enough for reliable comparisons and because it seems that those initially average (i.e., with less polarized attitudes) were more likely to reflect the institutional "climate" in degree and direction of change than initially high or low groups, or the total sample at each school.

The first section of this chapter reported that, with the exception of two schools, there were higher proportions of seniors than freshmen in the highest category of intellectual interests. In this section, evidence has been presented for a general gain in liberal attitudes, and also for differential change in liberal, nonauthoritarian attitudes among the institutions. Even so, the general rank order of schools based on senior average scores was essentially the same as the rank order based on freshman average scores. The freshman-senior rank order correlations for men and women on both the Au and RL scales were all above .90. In essence, the characteristics of the students at entry served as a major determinant of their relative attitudes as seniors. Students at the eight institutions were different enough from one another at the freshman level to make it possible for differential change to take place (it did) without significantly altering the ranking of the schools on a given measure.

CHANGES IN PERSONAL ADJUSTMENT

Previous sections have considered the relationship between institution attended and amount of change on measures of two aspects of personality–intellectual attitudes and interests, and liberal attitudes. The following analyses will be concerned with changes on two measures of personal adjustment–Impulse Expression and Schizoid Functioning–and to the question of possible differential change related to institution attended.

The term, "aspects of personality," suggests that there are many ways of looking at the student. The meaning or significance of any one of these aspects must ultimately be understood in terms of the whole of which it is a manifestation (Goldstein, 1940). The possibility, and difficulty, of understanding the whole by studying isolated part phenomena are discussed in Goldstein's classic work.

The importance of understanding changes in the way students regard themselves, of understanding their anxieties and their impulsivity hardly needs to be elaborated. A mark of a mature person is a degree of openness not only to others and their viewpoints, but to oneself, to one's own sometimes socially undesirable fantasies, wishes, and desires as expressed in a certain degree of spontaneous, impulsive behavior—or at least a recognition that one has these thoughts, wishes, and tendencies. A denial of one's tendencies and feelings, when he has them, will keep a person from fully coming to terms with himself and his environment. The measure of Impulse Expression assesses the degree to which a student is open to, and accepts, his own impulses and fantasies.

IMPULSE EXPRESSION (IE)

Men. The total sample and all subsamples scored higher on IE as seniors than as freshmen, with the exception of men at Pacific, who showed no significant change, and men at Portland, who scored significantly lower (Table 51).

With respect to differential change, Swarthmore and Antioch men who had been initially average on IE changed more than the average amount over four years, while San Francisco, Pacific, and Portland men showed less than an average increase (Table 52). Essentially the same results were obtained by the analysis of the total samples of men at each school.

Women. By referring to Table 51, it can be seen that women at all schools except Portland showed a significant increase in IE over four years. Although Portland women did not change in average IE, they did become more heterogeneous on this measure, as did women at Swarthmore, San Francisco, and the University of California.

With respect to differential change (Table 52), there were significant differences in average change scores at each of the three levels of freshman score as well as for the total sample. Only the extreme changers, by freshman level, will be mentioned. Among women initially high, those at Antioch increased most while those at Portland, the University of California, and St. Olaf increased least on IE. Among those initially average, women at Reed, Swarthmore, and Antioch increased most, while those at Pacific and San Francisco showed a marked average decrease. Unfortunately for purposes of analysis, there were not enough Reed women initially low on IE to be included in the analysis of differential change. However, there were significant differences in the mean change scores of women at the other seven schools who had been low on IE as freshmen. Specifically, Antioch and Swarthmore women increased most, and those at Portland and the University of California increased least. Across all three levels of freshman scores, women attending Antioch and Swarthmore tended to change most (increase) on IE, while those at Portland tended to increase least in average score. This is also the picture of differential change which emerged from the analysis of the total samples of women at each school.

Table 51

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND *t* TESTS ON IMPULSE EXPRESSION, BY SCHOOL AND SEX, IN PERCENTAGES

		Means			*Standard Deviations*			
School	*(N)*	*Freshmen*	*Seniors*	*t*	*Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	37.1	42.1	5.01	10.6	10.9	ns	.64
Reed	(41)	36.5	39.9	2.87	10.5	10.4	ns	.73
Swarthmore	(80)	33.4	40.5	7.89	10.7	10.7	ns	.68
S.F. State	(21)	32.3	36.1	2.39	9.5	9.4	ns	.71
U.C.	(174)	32.6	36.5	6.10	10.8	11.1	ns	.70
U.O.P.	(44)	34.9	36.5	ns	9.7	8.9	ns	.76
St. Olaf	(124)	30.9	35.7	5.35	10.4	10.8	ns	.55
U.P.	(35)	37.0	33.7	-2.11	10.2	10.2	ns	.59
Total	(605)	33.7	37.7	11.09	10.6	10.9	ns	.65
				WOMEN				
Antioch	(71)	29.8	37.8	8.43	10.9	10.9	ns	.75
Reed	(13)	35.6	41.0	2.60	12.7	11.5	ns	.83
Swarthmore	(85)	27.1	35.5	8.34	9.1	11.4	3.32	.61
S.F. State	(49)	25.2	29.0	3.08	9.6	12.3	3.25	.72
U.C.	(182)	27.8	31.4	5.20	9.7	11.1	2.91	.61
U.O.P.	(64)	23.8	27.5	3.39	9.3	10.8	ns	.63
St. Olaf	(164)	24.2	28.1	6.03	9.9	10.1	ns	.53
U.P.	(54)	25.1	26.1	ns	7.7	10.3	2.84	.44
Total	(682)	26.4	30.9	13.18	9.7	11.4	7.15	.65

Before suggesting a possible explanation of the data on IE, it is necessary to present the results of the analysis of change in Schizoid Functioning because increases on IE may indicate a change toward greater or lesser maturity and adjustment depending, in part, on the concomitant change on SF.

Table 52

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR FRESHMAN SCORES ON IMPULSE EXPRESSION, BY SCHOOL AND SEX, IN PERCENTAGES

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
					MEN					
High (44+)	N	19	10	13	1	27	9	17	9	ns
	$\bar{X}$	-1.8	-1.2	1.4	-	-.7	-3.0	-2.4	-7.7	
Average (43-24)	N	57	30	52	17	111	30	79	22	F = 4.46
	$\bar{X}$	6.1	5.1	7.3	2.6	4.1	2.2	5.1	-3.0	df = 7/390
	E.R.[b]	.1	.4	.0	-.2	.0	.2	.0	.2	p<.01
Low (23-)	N	10	1	15	3	36	5	28	4	ns
	$\bar{X}$	11.3	-	11.5	10.0	6.9	6.4	8.5	5.0	
Total	N	86	41	80	21	174	44	124	35	F = 5.76
	$\bar{X}$	5.0	3.4	7.1	3.8	3.9	1.6	4.8	-3.3	df = 7/597
	E.R.[b]	-.3	-.2	.0	.1	.1	-.1	.2	-.3	p<.01
					WOMEN					
High (36+)	N	24	7	15	8	38	9	14	5	F = 3.51
	$\bar{X}$	6.8	1.9	3.8	4.1	-1.7	3.6	-3.4	.8	df = 7/112
	E.R.[b]	-.8	-.5	-1.5	-1.3	-1.3	-1.5	-1.4	-2.1	p<.01
Average (35-18)	N	39	5	59	29	119	39	107	40	F = 5.13
	$\bar{X}$	7.3	9.0	8.4	-1.8	4.9	-2.5	3.3	-.0	df = 7/429
	E.R.[b]	.3	.5	.1	-.1	.1	-.1	-.1	-.1	p<.01
Low (17-)	N	8	1	11	12	25	16	43	9	F = 3.20
	$\bar{X}$	14.9	-	14.4	8.3	5.6	6.6	8.0	5.3	df = 6/117
	E.R.[b]	1.3	-	1.5	1.0	1.3	1.0	.9	1.7	p<.01
Total	N	71	13	85	49	182	64	164	54	F = 5.46
	$\bar{X}$	8.0	5.4	8.4	3.8	3.6	3.7	3.9	1.0	df = 7/674
	E.R.[b]	-.3	-.8	-.1	.1	-.1	.2	.2	.1	p<.01

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

SCHIZOID FUNCTIONING (SF)

The Schizoid Functioning measure focuses on attitudes toward oneself, feelings of anxiety and alienation. Since increased anxiety is related to a loss of spontaneity, flexibility, and freedom, the measure now under consideration has great relevance for understanding the effectiveness with which students are able to come to terms with themselves and environmental demands.

Table 53

FRESHMAN AND SENIOR MEANS, STANDARD DEVIATIONS, CORRELATIONS, AND *t* TESTS ON SCHIZOID FUNCTIONING, BY SCHOOL AND SEX, IN PERCENTAGES

		Means			*Standard Deviations*			
School	*(N)*	*Freshmen*	*Seniors*	*t*	*Freshmen*	*Seniors*	*t*	r_{fs}
				MEN				
Antioch	(86)	32.9	28.0	-4.10	12.8	13.3	ns	.64
Reed	(41)	31.1	30.6	ns	13.0	14.4	ns	.71
Swarthmore	(80)	31.8	29.2	-2.36	11.1	12.2	ns	.65
S.F. State	(21)	30.4	24.3	-2.58	13.1	11.4	ns	.58
U.C.	(174)	30.0	25.2	-5.66	13.5	12.8	ns	.64
U.O.P.	(44)	35.4	26.4	-6.11	12.8	11.1	ns	.67
St. Olaf	(124)	33.2	25.7	-6.45	13.2	12.8	ns	.50
U.P.	(35)	37.5	28.2	-4.67	12.2	14.6	ns	.62
Total	(605)	32.2	26.8	-11.58	12.9	12.9	ns	.60
				WOMEN				
Antioch	(71)	33.9	26.3	-5.14	11.0	12.0	ns	.37
Reed	(13)	31.5	29.4	ns	15.1	12.0	ns	.72
Swarthmore	(85)	30.9	28.9	-1.67	9.9	12.0	2.52	.51
S.F. State	(49)	31.0	25.0	-3.28	12.7	13.3	ns	.52
U.C.	(182)	31.6	25.1	-7.71	12.6	12.5	ns	.59
U.O.P.	(64)	29.9	23.8	-5.55	10.9	10.9	ns	.67
St. Olaf	(164)	33.7	24.8	-11.01	12.3	12.2	ns	.61
U.P.	(54)	31.4	25.8	-3.79	12.5	13.8	ns	.62
Total	(682)	32.1	25.7	-14.91	11.9	12.3	ns	.57

Men. The total sample of men and all subsamples, except for those at Reed, decreased their average SF scores from the freshman to the senior year. The tendency was for the students in the sample to become more at ease with themselves, to feel less anxious and less alienated. The t-test results for the freshman-senior differences on SF are presented in Table 53.

With respect to differential change (Table 54), men initially average on SF who were attending Portland, St. Olaf, and Pacific decreased their average scores most, while those at Swarthmore and

Table 54

MEAN DIFFERENCE SCORES AND ANALYSES OF VARIANCE FOR FRESHMAN SCORES ON SCHIZOID FUNCTIONING, BY SCHOOL AND SEX, IN PERCENTAGES[a]

Freshman Level		*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Results of Variance Analyses*
					MEN					
High (45+)	N	17	4	9	2	22	11	23	10	ns
	$\bar{X}$	-10.5	-6.0	-8.4	-	-16.6	-15.5	-15.6	-11.2	
Average (44-20)	N	55	30	56	16	110	28	82	23	F = 3.58
	$\bar{X}$	-5.1	-.2	-3.0	-5.4	-4.2	-8.1	-8.4	-9.5	df = 7/392
	E.R.[b]	.0	-.1	-.1	-.1	-.1	.0	.0	.3	p<.01
Low (19-)	N	14	7	15	3	42	5	19	2	ns
	$\bar{X}$	2.7	1.4	2.3	5.3	-.1	.4	6.1	-	
Total	N	86	41	80	21	174	44	124	35	F = 3.77
	$\bar{X}$	-4.9	-.5	-2.6	-6.1	-4.8	-9.0	-7.5	-9.3	df = 7/597
	E.R.[b]	.0	.1	.0	.1	.1	-.2	.0	-.3	p<.01
					WOMEN					
High (44+)	N	12	2	8	8	33	7	36	13	ns
	$\bar{X}$	-17.2	-	-6.2	-16.1	-15.5	-14.6	-13.3	-10.6	
Average (43-21)	N	51	8	65	31	106	44	107	31	F = 2.17
	$\bar{X}$	-7.0	.2	-2.8	-4.8	-6.5	-6.6	-8.7	-4.8	df = 7/435
	E.R.[b]	.0	-.1	.0	.0	.0	-.1	.1	.1	p<.05
Low (20-)	N	8	3	12	10	43	13	21	10	ns
	$\bar{X}$	2.9	2.7	5.5	-1.5	.3	-.2	-2.6	-1.7	
Total	N	71	13	85	49	182	64	164	54	F = 3.58
	$\bar{X}$	-7.6	-2.1	-2.0	-6.0	-6.5	-6.1	-8.9	-5.6	df = 7/674
	E.R.[b]	-.1	.0	.1	.1	.0	.1	-.1	.0	p<.01

[a] Samples of less than three students were not included in the analyses of variance and means for these samples are not entered in the table.

[b] Estimated regression owing to unreliability of freshman scores. Presented only where F values are significant.

Reed decreased their average scores least (a decrease in score is related to "better" adjustment). The results of the analysis of the total sample of men at each school were in essential agreement with those obtained on mean average on SF as freshmen.

Women. Women attending all schools but Reed decreased their average score on SF over four years (Table 53). This was precisely the result obtained with the men. In addition to the changes in mean score, women at Swarthmore increased in variability over four years.

Again as in the case of the men, there was evidence for differential change on SF (Table 54). Women initially average on SF who attended St. Olaf and Antioch decreased their average score most, while women at Swarthmore and Reed decreased their average score least. These same results held when the analysis was based on the total sample of women at each institution.

Although there were some differences across sexes between schools, it was clear that for both men and women, attendance at St. Olaf was associated with a large decrease in average score on SF, whereas attendance at Reed and Swarthmore was associated with a small decrease in average score.

IE and SF as Adjustment Measures

The general pattern of change on Impulse Expression and Schizoid Functioning was for the first to increase and the second to decrease over four years. The finding of reversed direction of change on these two measures is of interest because the two were correlated positively at both the freshman and senior levels. Generally when two measures have a positive correlation they show changes in the same direction. In this instance the obtained pattern of an increase on IE and a concomitant decrease on SF was replicated in all subsamples except the following (results based on the information presented in Tables 51 and 53): Reed students as a group increased in impulsivity but did not decrease in Schizoid Functioning (not shown in tables); Pacific men did not increase in impulsivity but did decrease on the SF measure. Similarly, the total (not tabulated) of female samples at Portland did not increase in impulsivity but decreased on the SF measure. Men attending Portland were the only sample to decrease reliably on both IE and SF.

A point to be reemphasized is that Impulse Expression is ambiguous as a measure of adequate adjustment. That is, a given level of impulsivity may be indicative of a spontaneous, flexible mode of adjustment or of a disruptive, undesirable one. The difference seems to reside in other aspects of the individual's modes of adjustment. Thus, individuals who score high on both IE and SF tend to express disruptive, inadequate modes of coming to terms with various situations, while those equally high on IE but lower on SF tend to manifest a spontaneous, flexible mode of adjusting to various situational demands. The psychological significance of the preceding results must be arrived at, therefore, by considering the results obtained with both the IE and SF measures. Thus, the finding that the total sample showed an average increase on IE and an average decrease on SF may be interpreted as indicating an increased spontaneity and flexibility in coming to terms with situational demands.

In the following account, statements about IE refer to the data shown in Table 52 and statements about SF refer to those in Table 54. Students attending Swarthmore changed more than the average change of the total sample on Impulse Expression, but they decreased their Schizoid Functioning scores less than an average amount (not shown). This finding holds for men and women as well as for the total sample at Swarthmore. The senior IE-SF pattern for Swarthmore students was one which suggests spontaneity and flexibility, although as freshmen, their scores indicated some constriction and caution with regard to any impulsive behavior or thoughts. Clearly, the Swarthmore experience occasioned a change in impulsivity (Table 52), but at the cost of a less than average decrease in feelings of anxiety and alienation (Table 54).

The students at Antioch as a group showed a greater than average increase in impulsivity and an average decrease on the Schizoid Functioning measure (not shown). The men changed an average amount on both measures, while the women changed more than an average amount on both. As seniors, Antioch students showed a marked degree of flexibility and spontaneity in their modes of adjustment.

Reed students changed an average amount in impulsivity and less than the average amount on SF. This was true of men, women, and the sample as a whole. The result was that as seniors these students showed slightly more spontaneity in their adjustment patterns than they did as freshmen—although even as freshmen these students showed a marked degree of spontaneity and flexibility.

Both men and women at the University of California and San Francisco State changed an average amount on both measures. In fact, these students seemed to form the fulcrum point of change on these measures. At both institutions, the men, as seniors, showed the IE-SF pattern characteristic of spontaneous modes of adjustment. The women, as seniors, tended toward this pattern, but were still below the overall sample average in degree of impulsivity.

Of the three schools with a church affiliation, St. Olaf students were the only ones to change at least an average amount in impulsivity. At the same time, they decreased more than the average amount on SF. The result was that as seniors, St. Olaf men showed the characteristic mark of a spontaneous, flexible approach to adjustment problems, but the women were still quite constricted—although they now admitted to fewer feelings of anxiety and alienation than they did as freshmen. The senior IE-SF pattern at Pacific, by sex, was the same as that at St. Olaf. The final pattern, however, represented different types of change at St. Olaf and Pacific. At Pacific, the tendency was for a greater than average decrease on SF, but a less than average increase on IE, whereas at St. Olaf the students changed at least an average amount on both measures. Finally, at Portland there was no change on IE for the total sample or for women, and a decrease on IE for men. At the same time, these students decreased at least an average amount on SF.

The change pattern in two of the three church-affiliated schools, the University of the Pacific and the University of Portland, was that these students changed less than the average amount on IE, while all groups in all three church-affiliated schools decreased their average scores on SF at least as much as the sample average. It seems, then, that the friendly, supportive climate of these three institutions fostered a decrease in feelings of anxiety and alienation—in short, a greater self-acceptance and a greater feeling of being at ease with themselves.

SUMMARY

The impression obtained from the various results is that the greatest degree of four-year change occurred on the measures of liberalism, somewhat less marked but substantial change took place in the measures of personal adjustment, and the smallest degree of change occurred in the measures of intellectual interests. Evidence for differential change, the primary concern of this chapter, was perhaps clearest for the measures of liberal attitudes and least clear for the measures of intellectual interests.

Intellectual Interests

INTELLECTUAL DISPOSITION CATEGORIES (IDC)

The IDC analyses were based primarily on the proportion of students at a given school who changed to an above average intellectual orientation (i.e., Categories 1-3). By this analysis, the proportion of students moving to Categories 1-3 varied from 36 to 4 percent across the eight schools (Table 33). The net gain in Categories 1-3 (i.e., the proportions in Categories 1-3 as seniors minus the proportions in Categories 1-3 as freshmen) varied from minus 15 percent at Reed to 22 percent at Antioch. For the total sample, the net gain was 11 percent–from 16 percent in these categories as freshmen to 27 percent as seniors (Table 32). Thus, a general tendency for students at most of the schools to become more intellectually oriented was noted.

The above results suggested differential change across schools, but further analyses (Tables 34 and 35) revealed this not to be the case. With the exception of Swarthmore students initially low on IDC, there was no evidence for differential change (Table 35). These results were corroborated when mean IDC change scores were analyzed for differential change (Table 38). The coarseness of the IDC system was acknowledged and analyses were shifted to the four OPI measures of intellectual interests.

Thinking Introversion (TI). There was a general, positive change on this measure over four years (Table 39), but no evidence at all for differential change (Table 40).

Theoretical Orientation (TO). This measure showed only moderate change in that, of the 16 freshman-senior differences compared (by sex at each of eight schools), only seven showed positive change and one a significant decrease (Table 41). There was some evidence for differential change for women initially average on TO. This type of woman at San Francisco changed (increased) most while this type attending Portland showed a slight decrease in mean score over four years (Table 42).

Estheticism (Es). There were significant increases on this measure for 1[illegible] of the 16 comparisons. Another striking feature was the dramatic increase in variability on the part of women at St. Olaf (Table 43)

Regarding differential change (Table 44), men initially average at Swarthmore and St. Olaf changed most, while this type of man at Pacific and Portland changed least. Women initially low on Es at Antioch, St. Olaf, and Swarthmore changed most, while those at Pacific changed least. Thus, there was some agreement across the sexes regarding differential change on Es.

Complexity (Co). It was only at Reed and Portland, for both men and women, that senior averages were not significantly higher than freshman averages (Table 45).

There was no evidence for differential change for the men in the study. However, for women initially average on Co, those at Antioch and Swarthmore increased their averages most, while those at Pacific and Portland actually showed an average decrease in mean over four years (Table 46).

Except for TO, there was general change on the measures of intellectual interests. For men there was evidence for differential change only on Es. For women, however, differential change was in evidence on all scales but TI. The evidence seems to point to greater development (change) of intellectual interests (particularly Es and Co) for women at Antioch and Swarthmore, and the least for women at Portland and Pacific.

Liberal, Nonauthoritarian Attitudes

Autonomy (Au). At every institution, for both men and women, there was a significant increase in mean score over four years. There was also a tendency for students to decrease in variability from test to retest (Table 47).

It was found that men average on this measure as freshmen who were at San Francisco and Antioch changed most, while those at Pacific and Portland changed least. The largest average change was made by this type of woman (initially average) at Antioch, but initially average women at San Francisco and Portland changed least (Table 48). Thus, for those of both sexes who had been average on Au as freshmen, attendance at Antioch was associated with a large degree of change, while attendance at Portland was related to a relatively small degree of change.

Religious Liberalism (RL). With the exception of Portland men and Reed women, all groups showed a significant increase in average score on RL (Table 49). As with Au, there was also a tendency for the various samples to show a decrease in variability, though not nearly as strikingly or pervasively as was the case with Au.

With respect to differential change, those initially average and low of both sexes provided evidence for such change. For reasons discussed in the text, the evidence based on those initially low will not be summarized here. Men average as freshmen attending Antioch, Reed, and Swarthmore changed least. Virtually the same results were obtained for women average on RL as freshmen. Those at Antioch, Reed, and Swarthmore changed most and those at St. Olaf and Portland changed least (Table 50).

For both sexes, attendance at Antioch was associated with large change on both Au and RL, and attendance at Pacific was associated with small change—again, for those initially average on these measures.

Personal Adjustment

Impulse Expression (IE). Pacific men and Portland women did not change significantly on IE, although Portland men showed a significant decrease in average score. All other groups changed (increased) significantly on IE over four years (Table 51). Furthermore, women tended to become more variable from test to retest.

There was evidence for differential change for men initially average and for all three levels of freshman scores for women (Table 52). For the men under consideration, those at Swarthmore and Antioch showed the largest average increase, while those at San Francisco and Pacific showed the smallest average increase; men at Portland actually decreased. The degree of consistency in results across the three freshman levels of IE for women was, of course, brought out clearly in the analysis based on the total sample of women at each school (Table 52). Here it was found that Swarthmore and Antioch women changed most, while Portland women changed least.

Schizoid Functioning (SF). Except for men and women at Reed, all groups showed a decrease in average score over four years (Table 53).

As in most previous analyses, the best evidence for differential change was provided by men and women who had been average on SF as freshmen (Table 54). The men at Portland, St. Olaf, and Pacific decreased their average score most, while men at Swarthmore and Reed decreased their average score least (a decrease in score presumably means "better" personal adjustment). Of the women who had been average on SF as freshmen, however, those at St. Olaf and Antioch decreased their average the most, and those at Swarthmore and Reed the least.

In general, the data for differential change on the eight OPI measures are perhaps a little more clearcut for women than for men, but essentially the same results emerged for both. Students at Antioch and Swarthmore were more frequently identified as large changers, whereas those at Pacific and Portland were more frequently identified as less than average changers. Since this overview refers to differential change, it must be kept in mind that, for the most part, such data were based on samples average as freshmen but attending different schools.

The fairly consistent result that the best evidence for differential change was found with samples average as freshmen on a given scale may be a reflection of at least four factors. First, those samples tended to be larger at all schools than samples of those who initially scored either extremely high or extremely low. Second, it might be that on some of these measures of interest and attitude, an average score represented a less crystallized or polarized stance on the part of the student who might then be more "susceptible" to change in the direction of the school climate or other experiences. Third, there was ample "room" for positive and negative change to take place within the limitations of the length of the test (ceiling and floor). Finally, differential effects of one variable (schools) are more clearly discernible if the samples are comparable or equivalent to begin with on another, dependent, variable.

According to the data on three aspects of personality, it seems evident that students changed to different degrees at different institutions. Although it cannot be specifically concluded that the institutions effected these results–since the characteristics of students who attend an institution in part define what it offers–the data do contribute to the issue of institutional impact on student values by establishing that there is a relationship between institution attended and changes in attitudes, values, and interests over four years.

7

Changes in Attitudes and Values

The changes to be discussed in this chapter—in students' attitudes, educational and vocational aspirations and values, cultural activities, religious observance, and political orientations—together with those summarized in Chapter VI, represent only part of the "impact" of higher education on students. Certainly other changes, of which the investigators were unaware, or for which they had no measures, occurred during these years. There may also be effects of experience in college which do not become manifest during the college years, but reveal themselves after the student has left college. These "delayed effects" may result from the later development of qualities which existed as "potentials" during the college years.

Nevertheless, the changes that do evidence themselves in measurable ways are important not only in themselves, but also as indications of possibly more far-reaching changes that will become apparent later. The persistence of those changes that did take place during the college years, and their effects on the students' lives after they left college, must remain an unanswered set of questions for the present research. It must be stressed that these are significant matters, however, since the changes that occurred during the college years may be of little significance apart from their long-term consequences for the individuals and their relations to society.

The approach in this chapter to the question of change during the college years is as follows:

1. The character and magnitude of changes in certain attitudes and orientations of students in the eight colleges between

the freshman and senior years will be reported. In each case, these changes will be reported by colleges, with comments on differences revealed by intercollege comparisons.

2. Questions of why these changes occurred, when and where they did, and in what students, will be discussed. Changes in a variety of attitudes and behaviors will be looked at, as well as changes within colleges.

EDUCATIONAL AND OCCUPATIONAL PLANS AND ASPIRATIONS

If the experience of higher education does nothing else, it tends to increase the desire for postgraduate education. The proportions of entering freshmen who anticipated continuing their formal education in graduate or professional school after four years of undergraduate work varied in the eight colleges from 34 to 46 percent in the less selective colleges to between 61 and 95 percent in the more selective institutions (Table 55). Three and one-half years later, just before graduation, the seniors in five of the eight colleges were more likely (by at least a magnitude of 20 percent) than they were as freshmen to be planning to continue their education. According to Table 55, the percentages of seniors in the eight colleges who had such plans ranged from 59 up. And in only two colleges did these seniors not show a substantial increase in the proportion planning for further education over their intentions as freshmen. Those colleges were Reed and Swarthmore, where the proportions of the entering freshmen anticipating postgraduate education were already so high that it was difficult for these proportions to increase.

Table 55

FRESHMEN AND SENIORS PLANNING TO ENTER GRADUATE OR PROFESSIONAL SCHOOLS, IN PERCENTAGES

	Antioch (N=171)	*Reed (N=73)*	*Swarthmore (N=185)*	*S.F. State (N=77)*	*U.C. (N=388)*	*U.O.P. (N=118)*	*St. Olaf (N=302)*	*U.P. (N=93)*
Freshmen	61	95	78	45	64	40	46	34
Seniors	81	96	83	75	78	64	74	59
difference	20	1	5	30	14	24	28	25

Although in most of the colleges there was an increase between the freshman and senior years in the proportions planning to continue their education, the proportions planning to go on to graduate school and those planning on professional schools differed (Tables 56 and 57). In only three of the eight colleges was there a substantial increase in the proportions who planned to go on to graduate school (San Francisco State, University of the Pacific, and St. Olaf). As noted in Chapter V, the eight colleges differed markedly in the proportions of entering students who planned to go on to graduate work, but differed to a smaller degree in the proportions planning on going to a postgraduate professional school of some kind.*

Table 56

FRESHMEN AND SENIORS PLANNING TO ENTER GRADUATE SCHOOL, IN PERCENTAGES

	Antioch (N=171)	*Reed (N=73)*	*Swarthmore (N=185)*	*S.F. State (N=77)*	*U.C. (N=388)*	*U.O.P. (N=118)*	*St. Olaf (N=302)*	*U.P. (N=93)*
Freshmen	45	78	54	14	28	13	23	14
Seniors	48	79	51	36	27	30	41	19
difference	3	1	-3	22	-1	17	18	5

Table 57

FRESHMEN AND SENIORS PLANNING TO ENTER PROFESSIONAL SCHOOL, IN PERCENTAGES

	Antioch (N=171)	*Reed (N=73)*	*Swarthmore (N=185)*	*S.F. State (N=77)*	*U.C. (N=388)*	*U.O.P. (N=118)*	*St. Olaf (N=302)*	*U.P. (N=93)*
Freshmen	16	16	24	27	36	27	24	20
Seniors	33	16	32	39	50	34	33	40
difference	17	0	8	12	14	7	9	20

In comparing Tables 56 and 57, it is clear that Antioch and the Universities of California and Portland showed a larger increase in the proportions of their students planning on professional school than in the proportions of those heading for graduate work in academic subjects. University of the Pacific, San Francisco State, and St. Olaf showed the reverse relationship, while Reed and

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*This conceals differences in the kind of professional school to which students aspired, and equates schools of education and social welfare with schools of law and medicine.

Swarthmore showed little change in net proportions in either category—largely because the proportions in both institutions were so high to begin with. Reed was the consistently "high academic place"; Swarthmore, with its department of engineering, was somewhat less so, and Antioch probably had the widest range of academic and professional options.

Although the patterns were somewhat different in the eight colleges (a subject to be explored more closely later), the net effect of four years in college was to increase the proportions who looked to some kind of postgraduate training. The increase was most marked where the proportions were initially lowest, namely, at University of the Pacific, St. Olaf, University of Portland, and San Francisco State. On those campuses, the net increase in the proportions planning to continue their formal education beyond the first degree was about a quarter of the whole group.

These figures point to a fundamental and far-reaching change in American higher education: the transformation of undergraduate colleges increasingly into preparatory schools for graduate and professional education. This has been a clear and widely recognized tendency in the more selective colleges since World War II; the same tendency has also been noted in the less selective institutions within the upper half of all American colleges and universities, where between half and three-quarters of the graduates look forward to some kind of postgraduate training (Jencks & Riesman, 1968).

What accounts for this phenomenon? Is it that the attrition, which was high (between 44 and 73 percent) in all but one of the colleges in the present study (Swarthmore), took place disproportionately for those who entered without aspirations for postgraduate training, so that the survivors were those with initially high aspirations? The data for the eight colleges answer in the negative: The students who survived the four years did not have significantly higher aspirations for postgraduate training than their classmates who dropped out along the way. The answer seems to be that, except for Reed and Swarthmore, whose entering students were already for the most part aiming for postgraduate training, substantial numbers of students changed their minds in the course of their four years in college, and came to want more formal education. And the number changing their minds in that direction was considerably larger than the numbers who had plans, or at least hopes, for graduate or professional school as freshmen but lowered their sights while in college.

Table 58 shows at least part of the story of gains and losses to graduate and professional schools in the eight colleges. Only three students at Reed said as freshmen that they did not intend to continue their schooling beyond the first degree, and all three changed their minds by the time they were seniors (one planned to go to graduate school, two to a professional school). Yet this represented only 4 percent of the total group. In none of the institutions did more than 25 percent graduate without plans to continue formal education. These institutions showed a considerable ability both to sustain commitments to postgraduate education and to engender them in students who were not so minded as freshmen.

Table 58

FRESHMEN AND SENIORS WHO DID NOT PLAN TO CONTINUE SCHOOLING, IN PERCENTAGES

	Antioch (N=171)	*Reed (N=73)*	*Swarth-more (N=185)*	*S.F. State (N=77)*	*U.C. (N=388)*	*U.O.P. (N=118)*	*St. Olaf (N=302)*	*U.P. (N=93)*
Freshman	(57) 34	(3) 4	(33) 18	(39) 51	(124) 32	(64) 54	(134) 44	(48) 52
loss	(45)	(3)	(22)	(23)	(93)	(45)	(101)	(35)
gain	(12)	(0)	(11)	(11)	(18)	(10)	(18)	(9)
net loss	(33) 19	(3) 4	(11) 6	(12) 35	(75) 19	(35) 30	(83) 30	(26) 28
Senior	(25) 15	(0) 0	(22) 12	(7) 16	(49) 13	(29) 24	(51) 17	(22) 24

This table reports not only the net changes in the proportions not planning to continue their formal schooling beyond graduation in the eight colleges, but also the "turnover" (or changes in both directions) that produced that net change. For example, of the 171 Antioch students in the panel sample (i.e., who returned questionnaires both as freshmen and as seniors four years later) 57, or 34 percent, reported as freshmen that they did not plan to continue their formal schooling after leaving Antioch. Over the next four years 45 of those 57 changed their minds and decided they wanted to continue their schooling; 12 students who as freshmen had had further educational plans changed their minds and decided not to continue their schooling beyond graduation. The net loss in the numbers not planning to go on to further schooling was thus 33, or 19 percent, and resulted in only 25 students, or 15 percent, of the sample as seniors reporting that they had no postgraduate plans.

Consideration of the processes that lay behind the commitment to continue graduate studies in an academic discipline begins here with a comparison of the proportions of freshmen who had aimed for graduate school but switched away from it, and the proportions of seniors who switched to graduate school over their four years. Two factors can be noted from Table 59. First, with the striking exception of St. Olaf, the proportions are remarkably similar; among these institutions, St. Olaf had a singular ability to attract a much larger proportion to a graduate (and perhaps academic) career than it lost. Second, the considerable instability in these commitments is apparent, an instability concealed by the quite small net gains to graduate school reported in Table 56. As we see in Table 59, three-quarters of the students at Portland and two-thirds of those at University of the Pacific who as freshmen indicated a desire to go on to graduate school changed their minds over the course of the four years; elsewhere the proportions were between one-third and one-half, except for the low proportion at Reed--which is to be expected, and which supports the characterization of Reed as most single-mindedly a preparatory school for graduate school and academic careers.

Table 59

CHANGERS FROM "GRADUATE SCHOOL" TO ANY OTHER RESPONSE, AND TO "GRADUATE SCHOOL" FROM ANY OTHER RESPONSE BETWEEN FRESHMAN AND SENIOR YEARS, IN PERCENTAGES

	Antioch		*Reed*		*Swarthmore*		*S.F. State*		*U.C.*		*U.O.P.*		*St. Olaf*		*U.P.*	
	To	*From*	*To*	*From*	*To*	*From*	*To*	*From*	*To*	*From*	*To*	*From*	*To*	*From*	*To*	*From*
(N)	(37)	(31)	(10)	(9)	(31)	(36)	(18)	(14)	(49)	(52)	(29)	(9)	(74)	(19)	(15)	(10)
Percent	45	41	17	16	33	36	64	29	46	47	83	66	60	27	83	77
(N)[a]	(82)	(76)	(58)	(57)	(94)	(99)	(28)	(14)	(106)	(109)	(35)	(15)	(123)	(68)	(18)	(13)

[a] The base number, N, for "Changers to Graduate School," is the number giving the "Graduate School" response as seniors. The base number for "Changers from Graduate School" is the number giving the "Graduate School" response as freshmen.

Another way of measuring the stability of intentions over the four years is to compute the proportion of the four-year group in each college which gave the same response both as freshmen and as seniors. This of course will not show changes within categories--as, for example, a change in plans from studying physics to chemistry in graduate school, or from law to education in professional school.

But within the broad categories, the proportions of stable responses over the four years are shown in Table 60.

Table 60

STABLE RESPONSES IN PLANS TO CONTINUE SCHOOLING BETWEEN FRESHMAN AND SENIOR YEARS, IN PERCENTAGES[a]

	Antioch (N=171)	*Reed (N=73)*	*Swarthmore (N=185)*	*S.F. State (N=77)*	*U.C. (N=388)*	*U.O.P. (N=118)*	*St. Olaf (N=302)*	*U.P. (N=93)*
Stable	41	70	55	42	45	33	38	33

[a] Stability is defined here as the proportion giving the same response both as freshmen and seniors, including only the following categories: "Graduate school," "Professional school," "no plans to continue," and excluding "graduate from some other school," and "other plans," both of which were categories with few respondents.

The degree of stability of response is in almost direct relation to the degree of selectivity of the institution. The selective institutions selected not only, or perhaps not even primarily, for academic ability. Through the processes of self-selection, selective recruitment, and administrative decision, the selective institutions attracted and enrolled young people who were generally much clearer and more settled about the broad outlines of their career goals than the students who entered the less selective colleges. For many students at Antioch, Swarthmore, and especially Reed, college was a way station. It may have been an important and even necessary one to their eventual academic or professional careers, but it was still an intermediate point on a largely predetermined road–and not the place where they discovered a career interest. In one sense, this suggests that the "impact," in the sense of effecting dramatic change, of such institutions is therefore likely to be less than that of institutions like St. Olaf, where more students made the big decisions about their further education, decisions which in turn would largely shape their adult careers. For students in those less selective institutions, the alternatives had not been narrowed to the same degree; they had in a sense a wider range of options and possibilities, and the institution (or other influences during their college years which it is difficult to separate from those of the colleges themselves) may well have affected what they did when they left.

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This appears to be in contradiction to everything else that has been assumed about the influences on their students of small selective liberal arts colleges like Swarthmore and Reed, influences exerted through their distinctive character, the consistency of their moral and intellectual climates, their close and continuing student-faculty relationships, and their strong student subcultures (Chapter III). These institutions recruit students who, when they arrive, are fairly clearly headed for a relatively narrow range of academic, professional or quasi-professional roles in society; their education facilitates their pursuing those careers by giving them the necessary training—the knowledge, the habits of mind, the basic attitudes and orientations and styles of life and speech—that mark this stratum in society. But while these institutions leave their imprint on their students, can we speak of their students as being *changed* by them? And if not, what do we mean by institutional *impact?* This question will be variously raised and discussed in this and the succeeding chapters.

A still wider range of changes over the college years will be discussed below. The description of entering classes in the eight colleges (Chapter V) disclosed a pattern of differences between the students who entered the three highly selective liberal arts colleges and those who entered the five less selective institutions. Apart from the higher socioeconomic backgrounds, academic aptitude, and high school grades of the students entering the elite colleges, the differences can be summarized briefly. Of the students enrolled in the selective colleges:

- A higher proportion said they hoped to enter one of the older professions.
- A higher proportion planned to go on to graduate school.
- A higher proportion said that the "most important" educational goal was "to provide a basic general education and appreciation of ideas." A lower proportion checked "provide vocational training" as "most important."
- When presented with a list of characteristics of different jobs and occupations, a larger proportion indicated as most important those characteristics which provided intrinsic rewards (allowed them to use their special abilities, or to be creative and original); a smaller proportion cited as most important the extrinsic rewards of money or security, or the "relational" rewards of working with people.

- On a series of questions regarding cultural tastes, a higher proportion indicated more "cultivated" or culturally sophisticated preferences.
- On a series of questions about social and political issues, a larger proportion expressed "libertarian" values, supporting the rights of the individual, including those with unpopular political views.

It is sometimes said that the selective liberal arts colleges provide models for American higher education, and it is worth investigating whether the students in the less selective institutions seemed to show changes in the direction of the norms, attitudes, and characteristics of the students in the elite colleges. When one asks why students at University of the Pacific or San Francisco State should over time move toward patterns shown by elite college students, he might look to the faculties of these different kinds of institutions–faculties which may resemble one another far more closely than do the student bodies. First, however, it is appropriate to look at some of the patterns of change.

EDUCATIONAL AND OCCUPATIONAL VALUES

Educational Values

A striking difference between the entering classes of the eight institutions was in their conceptions of the main purposes of a college education (Chapter V). In the three selective liberal arts institutions, over half of the freshmen saw the purpose of college as that of providing basic general education. In the less selective institutions, the proportions giving that response ranged from 17 to 35 percent. By contrast, at the selective colleges fewer than one-quarter of the entering freshmen saw the main purpose as that of providing vocational training, while at the institutions the proportions ranged from just under one-half to two-thirds. It was suggested that the dominant climate of the three elite colleges was toward a liberal education, while in the others, "in varying degrees it was toward the acquisition of useful skills and knowledge." And the questions raised were concerned with whether those proportions would persist over the four years, and with what would happen to the deviants–those holding conceptions of higher education at variance with the majority of their classmates. Would these students change toward the prevailing views in their institutions, or would they maintain their deviant values through deviant subcultures or isolation, or in some other way; or would they be more likely to leave the institution?

The answers to these questions, which point toward the basic processes of socialization and attitude change during the college years, and thus to the possible impact of the institutions on their students, begin to emerge from the panel data. Table 61 shows that in all the institutions there was a net increase in the proportions naming "liberal education" as the main purpose of a college education; and in all but one college (Reed, where the proportion was already over 70 percent), the increase was substantial. There was also a marked decrease over the four years (again with the exception of Reed) in all institutions in the proportions of students naming vocational training as the main purpose of college, a decline especially large in the less selective institutions (Table 61). Whereas in the entering classes of the less selective institutions the "vocational" responses substantially outnumbered the liberal

Table 61

CHANGES IN EDUCATIONAL VALUES FROM FRESHMAN TO SENIOR YEAR, IN PERCENTAGES

Most important purpose of college	*Antioch*	*Reed*	*Swarthmore*	*S.P. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Liberal education								
Freshmen	47	71	54	25	39	24	29	22
Seniors	68	75	81	60	65	48	59	40
difference	21	4	27	35	26	24	30	18
Vocational training								
Freshmen	23	15	22	69	45	62	47	57
Seniors	12	14	9	31	16	32	12	34
difference	-11	-1	-13	-38	-29	-30	-35	-23
All others								
Freshmen	29	14	24	7	16	14	24	21
Seniors	20	11	10	9	19	19	29	26
difference	-9	-3	-14	2	3	5	5	5

education responses among the freshmen, by the time the persisters reached the senior year there was a reversal of the relationship of those attitudes in every institution (Table 61).

Although in the selective colleges the trend was toward a consensus on liberal education at the outset, in the other institutions the changes created a majority of seniors who held views similar to those of the students in the elite colleges. Moreover, it is clear both from the data in Table 61, and from the comparison of attitudes held by freshmen who stayed for the four years as compared with students who left before graduation (Table 62) that the net changes in distribution of educational values were not due to a sample bias related to differential attrition across the eight schools.

Table 62

COMPARISON OF PERSISTERS AND DROPOUTS WITH RESPECT TO EDUCATIONAL VALUES HELD AS FRESHMEN, IN PERCENTAGES

Educational values	*Antioch*	*Reed*	*Swarth-more*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Liberal								
Persisters	47	71	54	[a]	39	24	29	22
Dropouts	52	72	45	[a]	33	28	32	17

[a] Data were not available for San Francisco State College.

In none of the institutions did the students who subsequently persisted show substantially different patterns of educational values as freshmen than those who left before graduating (with the possible exception of Swarthmore, where dropouts were somewhat less likely to mention liberal education). One might have expected that holding "deviant" values of college education would reduce a student's chances of surviving in both the selective and the less selective institutions. And, indeed, if these values had been held very strongly, and had affected the student's adjustment to, and performance in, the institution, the commitment might have led to a higher dropout rate. Whatever the processes of selective retention in these institutions, however, and whatever characteristics disposed students to leave or persist to graduation, it does not appear that their initial educational values were a major factor.

Perhaps the most important implication of these findings is that despite the differences in character and functions between the less selective institutions and the elite liberal-arts colleges (the former, for example, provided a vocational education for many of their students), a substantial proportion of students who had not initially been so inclined came to profess the values of a liberal education. This does not, of course, make clear what the substance of those values was or how they affected other aspects of the students' experience in college. The terms, "basic general education" and "vocational training" were, in this form, perhaps just slogans. But as subsequent data will show, they were not empty slogans, and the students were in fact changing their views on a variety of other issues, in almost all cases in the direction of the views held by the majority of students at the selective liberal arts colleges.

There is another indication of educational values which suggests a similar set of processes in all these institutions. The students were asked how much importance they attached to getting good grades. Grades, of course, are the common coin of American higher education, and their importance for future jobs and for admission to graduate and professional schools ensures that most students will pay some regard to them. On the significance of grades at the University of Kansas, see Becker, Greer, and Hughes (1968).

Nevertheless, while college teachers spend a fair amount of time and energy devising tests and marking them and grading students, most of them would hold that grades are merely part of the apparatus of instruction and quite separate from the more important business of learning and learning how to learn. Indeed, while some teachers defend tests and grades as useful pedagogical devices, many others hold that the importance attached to them, by employers, graduate schools, and the students themselves, work against the central intellectual processes that lie at the heart of higher education. Quite apart from how concerned students are about grades, the best of them take over the attitudes of their teachers, attitudes which tend to reduce the significance of grades, and subordinate them to learning. The acquisition of these attitudes from teachers and from older students is one of the clearest evidences of the socialization processes at work in colleges and universities. In seven of the eight colleges (the exception being, significantly enough, Reed, where entering students were already closest tc holding the values and attitudes of faculty), a majority of entering freshmen said that they attached "a great deal" of importance to getting good grades. Four years later, none of the eight colleges showed majorities of their seniors giving that response (Table 63).

Table 63

CHANGES IN ATTACHING "A GREAT DEAL" OF IMPORTANCE TO GETTING GOOD GRADES FROM FRESHMAN TO SENIOR YEAR, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Freshmen	58	49	63	64	81	83	73	75
Seniors	20	11	20	35	35	42	21	33
difference	-38	-38	-43	-29	-46	-41	-52	-42

The selective liberal arts colleges and San Francisco State College had the smallest proportions of students who as freshmen expressed a great deal of concern about grades. When the students surveyed were seniors, those in the other institutions had moved toward them, a change which supported the hypothesis that in the less selective colleges the processes of value and attitude change were similar to those that occurred in the selective liberal arts colleges.

Occupational Values

Differences between the entering classes in educational values, as shown in Chapter V, were paralleled by differences in occupational values. Asked which of a series of statements expressed a most important value in their conception of an ideal job or profession, substantial majorities of the freshmen at the three selective colleges chose statements expressing intrinsic rewards (providing them with an opportunity to be creative, or to use their special abilities and aptitudes), while such values were chosen by only one-third to one-half of the entering freshmen at the other institutions. The remainder of the students at the less selective institutions divided their preferences roughly equally (although this varied by institution) between extrinsic values (money and security) and people-oriented rewards (the opportunity to work with people, or to be helpful to others). Fewer than 10 percent at any of the three selective colleges mentioned extrinsic values as primary in their conception of an ideal job or profession. While this does not mean that these rewards were of little significance to students in those institutions, it is clear that elite college students by and large did not name money and security as central characteristics of an ideal occupation; money and security may have been *motives*, but they were not *values* with high priority.

In looking at changes in the responses of students in the eight institutions between their freshman and senior years, one finds in all the schools a decline in the proportions who gave the "extrinsic reward" response, and an increase in percentages who chose intrinsic values. The magnitude of the changes was relatively small (the largest was at San Francisco State), but the trend was unmistakable (Table 64).

Table 64

CHANGES IN OCCUPATIONAL VALUES FROM FRESHMAN TO SENIOR YEAR, IN PERCENTAGES

Occupational values	*Antioch*	*Reed*	*Swarth-more*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Intrinsic								
Freshmen	61	78	58	30	50	30	38	29
Seniors	63	85	68	53	55	34	38	40
difference	2	7	10	23	5	4	0	11
Extrinsic								
Freshmen	10	7	10	31	18	26	12	32
Seniors	5	0	6	8	13	19	7	17
difference	-5	-7	-4	-23	-5	-7	-5	-15
Service to people								
Freshmen	27	14	31	39	31	37	48	35
Seniors	29	14	25	39	31	45	54	42
difference	2	0	-6	0	0	8	6	7

As with educational values, differences in distributions between the seniors in the selective and the less selective institutions persisted even after the shift. The seniors at the selective institutions still to a greater extent chose the intrinsic over the other two kinds of occupational values, while students in the less selective institutions were more likely choose "helping" or "people-oriented" values as central to their notion of an ideal occupation or profession. Still, working with and for people is certainly part of the intrinsic rewards of occupations, and students' increased choices of these values, along with those of creativity and the use of their unique abilities, presumably reflected a broadly humanizing influence of their college education.

CULTURAL SOPHISTICATION

One of the purposes of higher education is to give students some familiarity with what has been called "high culture"–the works of art and of the social and natural sciences that embody human intelligence and imagination at its most powerful, subtle, or refined. How successfully any education achieves this is not easy to discover through the relatively crude instruments of survey research. But the effort to learn something about it, however crudely, is justified by its importance; the qualities of mind in question are after all a central justification of higher education. The present study can make some comparisons between the cultural habits and attitudes of students who attended different colleges, and can look at the shifts in those habits and attitudes in the same students over time.

A Personal Library

It is commonly observed by teachers and educators that higher education, if it is to be successful, must encourage habits of reading and learning that continue after the student has left college. Most educators would agree that a desired outcome of the years in college would be the beginnings of a personal library. To own books is a sign that one has read them, and that one enjoys reading–that one's traffic with books is not confined to textbooks, which are likely to be resold or traded for others as quickly as possible. Owning books is of course not an infallible sign of an interest in learning; it may be influenced by how much money a student has to spend. And there are scholars who own few books themselves, but are frequent users of scholarly libraries. Nevertheless, owning books is a good indicator of an interest in ideas.

On this, as on other indicators of cultural sophistication, as noted earlier, the students entering the three selective liberal arts colleges included larger proportions who already had some of the characteristics of cultural sophistication, of membership in the subculture of educated men. Of all entering freshmen in these institutions, between three-fifths and three-quarters said they personally owned more than 30 books (a modest enough number);

the proportions in the other five colleges ranged from 23 to 44 percent (Table 65).

Table 65

CHANGES IN THE SIZE OF THE PERSONAL LIBRARY BETWEEN FRESHMAN AND SENIOR YEARS, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Owns more than 75 books								
Freshmen	14	19	24	10	10	7	4	1
Seniors	42	58	54	23	25	14	19	5
difference	28	39	30	13	15	7	14	4
Owns fewer than 15 books								
Freshmen	29	22	20	42	44	51	58	71
Seniors	12	8	10	18	26	40	27	50
difference	-17	-14	-10	-24	-18	-11	-31	-21

Using a more severe criterion for the nucleus of a personal library–75 books rather than 30–it is clear that over half of the students who attended Swarthmore and Reed owned such a library by the time of graduation, as compared with one-quarter or fewer of the graduating classes at any of the other five less selective institutions; only one in 20 of the seniors at Portland owned that many books. Nevertheless, even in the latter institutions, the proportions increased over four years–although by this criterion the gap had widened between them and the three selective colleges. At the other end, the proportions who owned fewer than 15 books had fallen considerably in several of those institutions. University of the Pacific and Portland still had sizeable proportions of graduating seniors who owned fewer than 15 books–certainly, by contrast with St. Olaf, these institutions seemed to have been less successful in encouraging this aspect of self-education.

Serious and Classical Music

Knowledge of and pleasure in "serious" music is one mark of a cultivated man. Many institutions recognize this by scheduling musical performances by members of their own faculties and visiting artists. One cannot know, of course, how much these events, or formal instruction, or the subtle influences of teachers and fellow students increased the capacities of students for enjoying such music. However, when asked how much they liked serious or classical music, the proportions of students who said they liked it "very much" rose over the four years in all eight schools, although the proportions in the selective institutions were somewhat larger (Table 66).

Table 66

CHANGES IN EXPRESSED LIKING FOR CLASSICAL AND SERIOUS MUSIC OVER FOUR YEARS, IN PERCENTAGES

Like it very much	*Antioch*	*Reed*	*Swarthmore*	*S.P. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Freshmen	54	66	60	56	44	40	48	28
Seniors	71	78	76	62	54	50	59	41
difference	17	12	16	6	10	10	11	13

Pop Culture

Pop culture is the lowest common denominator of life for young Americans of high school and college age. Its core and most apparent expression is popular music, but woven into it are a whole network of attitudes and activities which differ in importance by social class, region, and age-grade. For college students, the strength of their attachment to popular culture is inversely related to their cultural sophistication. People who own books, like serious music, and read poetry, are less likely to like popular music "very much." This reflects not merely differences in taste, but also differences in the refinement of sensibilities and the capacities for appreciation of subtler, richer, and more complex cultural products. But these preferences, in addition to representing larger resources for aesthetic pleasure, also are the mark of membership in a different subculture in the larger society.

Most educators would see it as a gain if their students exchanged their interests in the pop culture for interests in "better" cultural products. And whatever the mechanisms, the students at all the institutions did show a shift away from some aspects of popular culture.

The same pattern obtained here as with the attitudes and orientations explored earlier. The freshmen at the selective colleges were less addicted than those in the other institutions to popular music and became even less so during their four years in college. But the students in the other five institutions moved in the same direction, and at St. Olaf and Berkeley they came to like and dislike popular music in the senior year about as much as students in the selective institutions did when they arrived (Table 67).

Table 67

CHANGES IN LIKING FOR POPULAR MUSIC FROM FRESHMAN TO SENIOR YEAR, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Like it very much								
Freshmen	30	19	26	54	41	55	38	71
Seniors	11	10	12	36	31	43	19	39
difference	19	9	14	18	10	12	19	32
Not much								
Freshmen	22	41	27	5	16	7	15	2
Seniors	48	60	45	17	22	19	32	17
difference	26	19	18	12	6	12	17	15

If an addiction to popular music is the characteristic form that the mass culture takes among young people of high school and college age, the mass popular magazines are important vehicles of mass culture for adults. One might imagine youngsters "outgrowing" an interest in popular tunes and singers without the help of higher education. But if they change their tastes in magazines like *Readers Digest* or *Life*, it is unlikely that it is merely an aspect of growing up. If students are found to read such magazines less after four years in college, some of that change might reasonably be attributed to the influence of college experience, even if the specific agent of change within the institution cannot be identified.

The changes in reading habits revealed in Table 68 were striking, and the phenomena noted earlier were again evident: The proportions of freshmen at the selective colleges who read the popular general magazines were markedly lower than those at the other five colleges, and there was a subsequent shift of students at all the institutions in the more "sophisticated" direction, a pattern of change which nevertheless preserved the distinction between the selective and less selective institutions. Again, the seniors at the less selective colleges resembled the elite college freshmen. The general pattern is familiar; what is perhaps surprising is the magnitude of the changes: The proportions at Swarthmore who read popular magazines regularly dropped from 60 to under 10 percent; at Berkeley from nearly three-quarters to under two-fifths, etc. It is not possible to say to what extent these changes in reading habits persisted beyond college; but clearly a substantial proportion (between one-fifth and one-half) of the students at all the colleges changed their magazine reading habits at least during their college years. Many of them, as other data show, moved away from the mass popular press, in part toward more serious and demanding mass circulation magazines of comment, in part toward "highbrow" magazines, and in part toward professional and scientific journals. This, in the process of formation, is the "attentive audience" for serious political and cultural discussion, the large and growing audience of educated men. This is not the least important effect of mass higher education: not that it creates an educated cultural elite (which other more selective systems of higher education perhaps do more effectively), but that it raises the standards of mass entertainment and information by creating an audience for more serious popular journals and magazines.

Table 68

CHANGES IN MAGAZINE READING HABITS - MAGAZINES READ REGULARLY, IN PERCENTAGES

"Popular general"	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Freshmen	58	47	60	80	72	84	80	85
Seniors	12	12	9	60	39	59	58	54
difference	-46	-35	-51	-20	-33	-25	-22	-31

RELIGIOUS OBSERVANCE

Every study of American higher education has shown that attendance at most colleges and universities tends to reduce the strength of students' religious identifications and the frequency of their attendance at religious services. The present study shows this change very clearly in all the institutions, with the important exceptions of the two denominational colleges in the sample: the Lutheran college, St. Olaf, and the Catholic University of Portland. It is appropriate, therefore, to look at changes in church attendance in the eight student populations over the four years (Table 69). If categories are combined and "regular observers" are identified as those who attended religious services once a week or more often, and "infrequent observers" as those who attended only once or twice a year or less, the pattern of change emerges more clearly.

Table 69

CHANGES IN FREQUENCY OF RELIGIOUS OBSERVANCE FROM FRESHMAN TO SENIOR YEAR, IN PERCENTAGES

	Antioch		*Reed*		*Swarth-more*		*S.P. State*		*U.C.*		*U.O.P.*		*St. Olaf*		*U.P.*	
	Fr.	*Sr.*	*Fr.*	*Sr.*	*Fr.*	*Sr.*	*Fr.*	*Sr.*	*Fr.*	*Sr.*	*Fr.*	*Sr.*	*Fr.*	*Sr.*	*Fr.*	*Sr.*
More than once/week	5	1	1	3	3	2	16	3	6	4	14	6	22	41	27	41
Once/week	35	6	18	3	40	8	43	39	33	20	48	29	74	41	66	52
Once/month	18	6	19	3	24	16	25	14	21	13	21	26	2	13	4	1
Once or twice/year	19	24	32	22	19	29	9	19	21	27	11	24	1	3	3	5
Never or almost never	23	61	30	73	13	44	8	23	17	36	3	14	0	3	0	1

Table 69a shows that the largest falling off in church attendance (infrequent observers) was among students at the three selective colleges; at Swarthmore, for example, fewer than a third of the freshmen but nearly three-quarters of the seniors attended church only once or twice a year or less. The drift at the other secular institutions was substantial and in the same direction. At Portland, however, as Table 69 shows, the only marked change was an increase in the proportion of students who attended church more than once a week; the changers were chiefly those who as freshmen had attended only once a week. Clearly Portland was successful in its efforts to maintain religious ties during the course of a student's years there. At St. Olaf some students also became more faithful in attendance, moving up from churchgoing once a week to more often, although others slipped from attendance once a week to once a month or so. But by and large, St. Olaf students maintained the generally high levels of observance shown when they arrived.

By contrast, the falling off in religious observance in the six secular colleges was large—and this included University of the Pacific, despite its denominational origins and generally conservative contemporary climate. The results were consistent with the change in the liberal direction on the Religious Liberalism (RL) scale of the OPI reported in Chapter VI.

Table 69a

CHANGES IN FREQUENCY OF RELIGIOUS OBSERVANCE, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Regular observers								
Freshmen	40	19	43	59	39	62	96	93
Seniors	7	6	10	42	24	35	82	93
difference	-33	-13	-33	-17	-15	-27	-14	0
Infrequent observers								
Freshmen	42	62	32	17	38	14	1	3
Seniors	85	95	73	42	63	38	6	6
difference	43	33	41	25	25	24	5	3

ATTITUDES TOWARD COMMUNISTS

The question of the rights of past and present Communists, and of those charged with Communist sympathies or affiliations, was an important social and political issue during the years the students were studied. The worst excesses of the McCarthy period had passed, but hostility toward American Communists, both known and suspected, was still high in the community at large. Although spirited efforts were being made to restate and reaffirm the principles of academic freedom for college and university teachers, many men of good will were not inclined to extend the privileges of academic freedom to those who were openly committed to their destruction.

Because of the substantive importance of the issues, the students were asked a number of questions in this broad area, three of them squarely on the issue of the political beliefs of people in academics. The students were asked whether they believed that former Communists who would not reveal the names of other members of the party should be allowed to teach; whether present members of the party should be permitted to teach; and whether legislative committees should or should not investigate the political beliefs of university faculty members.

One of the most consistent findings in public opinion research is that educated people are more likely to support the civil rights and civil liberties of others than are people with less education (Stouffer, 1955). While the differences are continuous from low to high levels of educational achievement, e.g., high school graduates are more likely to be "civil libertarians" than high school dropouts, there is an especially marked difference between those who have been to college and those who have not. One cannot, however, go directly from the evidence of these differences to assumptions about the impact of higher education. When attitudes toward civil liberties of better educated and less well educated people are compared, the possibility suggests itself that those who went to college already were more disposed to support civil liberties than those who did not. Even when freshmen and seniors in the same institution are compared, the possibility remains that the differences do not reflect changes in students, but rather the selective attrition and accretion to an institution over a four-year period.

The present study makes it possible to examine the processes of attitude change by studying changes in the attitudes of the same individuals over time, a procedure which avoids the effects of selective recruitment and retention. Moreover, by comparing students whose values changed with those whose did not, what becomes apparent are the social and educational processes which underlie the changes whose gross effects are visible in national surveys, and indeed, in the national political arena.

While there was far from a perfect correspondence of views on the questions asked, the relationships between them were such as to allow combining them into an index of "civil libertarianism."* At one extreme were those who tended not to want to exclude past or present Communists from teaching, or not to approve legislative investigation of the political views of academics; at the other extreme were those who thought it right to investigate the political beliefs of academics, and were most inclined to exclude present and past Communists who had not demonstrated full repudiation of their past by identifying former comrades. In each case the freshmen entering the selective colleges tended to take a more "libertarian" position on these questions; moreover, they also changed more in the "libertarian" direction. Again, consistently with almost all the findings of attitude change reported in this chapter, the students in the nonselective institutions moved, though not quite as far, in the same direction (Table 70). These findings were congruent with the data on changes on the Autonomy (Au) scale of the OPI (Chapter VI).

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*A description of this index can be found at the end of this chapter.

Table 70

CHANGES IN CIVIL LIBERTARIANISM FROM FRESHMAN TO SENIOR YEAR, IN PERCENTAGES

Libertarianism	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
High								
Freshmen	32	47	32	5	14	6	6	1
Seniors	58	70	59	22	31	13	18	3
difference	26	23	27	17	17	7	12	2
Medium								
Freshmen	18	18	31	17	22	12	15	10
Seniors	17	16	22	22	23	22	21	10
difference	-1	-2	-9	5	1	10	6	0
Low								
Freshmen	47	30	35	63	58	73	79	86
Seniors	21	12	18	52	44	63	57	81
difference	-26	-18	-17	-11	-14	-10	-16	-5

The story is similar, although not identical, for each of these items taken separately, and for a wide range of other questions about civil rights and liberties (data on these issues are not reported here in detail). Two points, one new and one familiar, should be made. First, it is unlikely that the net differences that many others have found between college freshmen and seniors are a result of a selectively high attrition of less "liberal" students: On our evidence, the dropouts and persisters showed similar distributions in most of the colleges. Second, data not reported here showed that the higher levels of initial disposition to support libertarian positions in the selective colleges did not seem to reflect any higher proportion of Democrats among them (although it is true that fewer students who claimed to be Republicans enrolled in these institutions). This last point opens up the larger question of accounting for the differences in distributions and amounts of change between schools, and also for the differences between the kinds of students who changed or did not change in these several institutions. This brings us directly to a consideration of the interplay between the students' characteristics and the institution, and hopefully, to a closer study of the processes of change which will shed light on that interaction.

INDEX OF CIVIL LIBERTARIANISM

Index composed of responses to:

a. *A former communist who refuses to reveal names of other members should not be allowed to teach.*

b. *Present members of the Communist Party should not be allowed to teach in colleges.*

c. *Legislative committees should not investigate the political beliefs of university faculty members.*

Scored as follows:

	Answer	Score
a.	Agree	0
	Disagree	1
	Don't know	0
	No answer	0
b.	Agree	0
	Disagree	1
	Don't know	0
	No answer	0
c.	Agree	1
	Disagree	0
	Don't know	0
	No answer	0

Range of index: *Don't know* and *No answer* are scored as non-libertarian, but at least one of the three items must be answered "agree" or "disagree" for index to be constructed.

0 = low civil libertarian
3 = high civil libertarian

8

Disposition to Change

Earlier chapters looked at changes in the attitudes and values of students who had remained in the same institution over four years, and thus had been tested as both freshmen and seniors. Chapter VII asked chiefly how much change had occurred in students in the eight colleges, with attention to the amount of change that took place in the different colleges on various political, cultural, and religious issues. This chapter is concerned with the dynamics of change.

Surveys of the kind conducted in the present study–even repeated surveys of the same individuals–are clumsy instruments for the study of change: One in effect takes snapshots of people and institutions at different points in time, and from these tries to reconstruct, through a process of inference, some of the social and psychological processes that have not been directly observed. Observation also involves inferences, however, and survey methods do permit change and its correlates to be measured with more precision than is possible by even the most systematic observations.

This chapter will focus on four sets of attitudes and orientations which may be affected by the experience of higher education educational values, postgraduate academic plans, occupational values, and cultural sophistication. Each of these has been discussed earlier, first in characterizing the entering classes (Chapter V), and then in gauging the amount and direction of change students showed in these characteristics over the four years in the different colleges. The present purpose is to see whether, and how, changes in these characteristics were related to students' (changing) scores on a measure of a psychological orientation that has also been discussed earlier: Thinking Introversion (TI).

THINKING INTROVERSION

The Thinking Introversion scale has been chosen for special attention because it measures many of the qualities of mind and spirit that college and university teachers and administrators want to encourage or create through higher education. It has been defined in Chapter V, but a somewhat longer characterization of high and low scores arrived at independently by other investigators may be useful here:

> The *Thinking Introversion* scale refers to the relative proportion of attention given to ideas, actions, and philosophic thought. High scorers have a marked sense of subjective autonomy; they are not bound by group pressures. They delight in novelty of ideas and prefer to arrive at conclusions independently. There is a conscious pleasure in aesthetic matters. They are able to tolerate a good deal of ambiguity in the process of problem solving. They enjoy ideas for their own sake and are interested in going beyond the confines of an assignment. There is a social idealism and conviction of the utility of intellectual exploration. Concerned with ideas, they remain sensitive to the motives and reactions of people, and their capacity to value individuality extends to the realm of people. There is a realization of the possibilities in a wide range of human performance. The general idealism suggests an adolescent quality of enthusiasm that has not been closed off.
>
> Low scorers are practical, value action over thought, think of social issues in terms of concrete situations and facts and are reluctant to enter into philosophic speculation. They take little pleasure in debate and the exploration of ambiguous concepts, but enjoy immersion in concrete problems [Hockman, 1967, p.10].*

These qualities may both influence and reflect the impact of higher education on a student. Initial high freshman scores on the scale may reflect a potential for higher education–a psychological predisposition to be liberally educated–while a growth in these qualities may prove to be a fair measure of the achievement of the desired effect of college experience over and above the specific bodies of knowledge and skill that students acquire through the formal curriculum. This chapter explores TI both as a predisposition to change in other ways and as a measure of psychological growth.

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*The meaning of TI is further illuminated by its direct relationship with certain other values. See note at the end of this chapter.

CHANGES IN TI SCORES

Table 71 shows differences in the distribution of TI scores at the eight colleges, and also net changes* over four years by juxtaposing the distribution of the four-year group as freshmen and as seniors. (The TI scale was trichotomized and only the frequencies in the high and low categories are shown.)

Table 71

NET[a] CHANGES IN TI SCORES FROM FRESHMAN TO SENIOR YEAR, IN PERCENTAGES

TI Scores	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*	*Total*
High (60.0-89.9)									
Freshmen	34	62	35	13	19	9	13	2	21
Seniors	45	53	50	27	33	18	25	9	32
difference	11	-9	15	14	14	9	12	7	11
Low (10.0-49.9)									
Freshmen	27	17	24	61	47	63	52	73	45
Seniors	20	8	16	44	31	47	39	60	33
difference	-7	-9	-8	-17	-16	-16	-13	-13	-12
Total (N)	(157)	(53)	(165)	(70)	(354)	(108)	(288)	(89)	(1284)

[a] The sum of positive and negative changes.

Both the freshman and senior scores of those who had been tested at both times were much higher at the three selective elite liberal arts colleges, on the average, than at the other five institutions. About one-half of the seniors at the three elite institutions were in the high TI category, as compared with no more than one-third at any other institution (and only 1 in 10 at Portland). Similarly, in the low TI category, the proportions of seniors at Antioch, Reed, and Swarthmore ranged from 17 to

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*Individuals may change in both directions. Net change is the sum of the positive and negative changes.

27 percent, but from about 50 percent to 75 percent at the other institutions. This is further evidence of the great differences in the intellectual resources of the student bodies of these institutions already pointed out in Chapter V.

In looking at net change, one finds roughly similar amounts of change, with only a few exceptions. The Reed group, alone among the eight institutions, showed a net loss between the freshman and senior years, but even after the net loss, and despite the gains at all the other institutions in the high TI category, Reed seniors still had the highest average scores.

The total amount of change in TI, of course, was considerably higher than that shown in Table 71 above, which shows only net changes, and conceals the fact that fully one-half changed positions. For example, of the 390 students in the three elite colleges for whom there were freshman and senior scores, 192 (49 percent) remained in the same broad category, 133 (34 percent) moved up one or two categories, and 65 (17 percent) fell.

In the analysis of TI change throughout the remainder of this chapter the data are expressed in terms of individual change, rather than mean change of the several groups. Indeed, six score categories are used and individual shifts up or down even one category are counted as changes.

TI as a Disposition to Change

The first question is: Are the qualities of mind indicated by initial high scores on TI associated with a greater likelihood of *change* in the educational and occupational values and plans mentioned above? Put slightly differently–does TI function to increase the openness of students to the effects of the college experience, and does this vary in different kinds of educational environments, and for different initial levels of TI? What is involved is the interplay of psychological dispositions and institutional environments, as together they influence changes in attitudes, values, and plans.

Educational Values and TI

Looking first at the changes in students' educational values in relation to their initial scores on TI, it becomes clear that of the six educational goals suggested on a checklist, the majority of students chose one of two categories into which these fell: *provide vocational training* and *provide a basic general education.** It was found that a much higher proportion of students entered college with a conception of its chief goals as vocational than held that view four years later—as was shown in Chapter VII. There was thus a decided shift to an appreciation of the value of college in providing a basic general education, although this shift was greater in the elite liberal arts colleges than in the less selective institutions. Were changes in these basic educational values also associated with high initial TI scores? Table 72 indicates that, by and large, they were so associated to a moderate degree. Students who scored high on TI as freshmen were more likely to change their basic educational values from vocational or other positions toward "liberal education," and if they started with liberal values, they were more likely to retain them over their four years.

Table 72

SENIOR EDUCATIONAL VALUES BY FRESHMAN EDUCATIONAL VALUES AND FRESHMAN TI, IN PERCENTAGES

	Freshman Values											
	Vocational				*Liberal*				*Other*			
	Freshman TI				*Freshman TI*				*Freshman TI*			
Senior Values	*3 (low)*	*4*	*5*	*6 (high)*	*3 (low)*	*4*	*5*	*6 (high)*	*3 (low)*	*4*	*5*	*6 (high)*
Vocational	32	27	24	23	15	15	10	5	10	10	11	8
Liberal	55	52	57	70	66	72	71	83	52	69	61	78
All other	14	21	19	8	19	14	20	12	38	21	28	14
Total (N)	(130)	(202)	(158)	(66)	(65)	(95)	(174)	(162)	(29)	(67)	(105)	(51)

Over half of all the students in all eight colleges who as freshmen had expressed a preference for vocational training, as seniors expressed a preference for a basic general education as the chief goal of their college experience. But while those scoring in the three lowest categories of TI showed a similar propensity to

*In the tables, the latter value was labeled the "liberal" response.

change, those who initially scored highest on TI showed a much higher propensity to change. Whereas between 52 and 57 percent of those in the low and medium TI categories shifted from vocational education to general education as a goal, 70 percent of those who had been in the highest category of TI made that shift. Similarly, among those who initially started with a commitment to liberal education, the proportions who persisted in that commitment were higher among those with initially high TI scores. And the same pattern obtained among those whose initial values had been neither vocational nor liberal. There were small reversals in the middle categories of TI, but the differences between those categories and the lowest and the highest TI scores were consistent, regardless of students' initial preferences for educational goals. An initial high score on TI evidently was an indication of a kind of predisposition toward a preference for a general liberal education; if students with intellectual dispositions did not hold that preference on entry, they were more likely to develop it over the four years.

It was not possible to study this relationship within each of the eight colleges, since the numbers for such finely detailed tabulations were too small. However, if the institutions are grouped into three clusters broadly by relative selectivity, a general confirmation of what was learned by grouping all the colleges together appears (table not shown). In each of the three categories, the students with initial vocational orientation and the highest TI scores were most likely to have shifted toward the value of "basic general education" by their senior year.

After reviewing initial TI scores as a predisposition to change from preferring vocational to liberal education, the next step is to consider such a change in educational values as it may be related to changes in scores on the Thinking Introversion scale. It may be of interest to see how changes in basic modes of thinking as measured by the scale of Thinking Introversion were related to changes in the single measure of educational values.

In all analyses of the changes in values, dispositions, and attitudes, the findings were related to the student's initial position, since where he was at the outset affected the direction and degree of his change. In part, this is an artifact of the measurement instruments themselves; for example, a student whose initial score was very nearly at the top of the scale could not move higher. But there is, in addition, a genuine substantive question independent of the difficulties of measurement—a question of whether people whose scores on some measure were initially low in relation to some general population were therefore more vulnerable to the impact of that environment and more likely to show large amounts of change in the direction of majority sentiment, while comparable change in the same direction would make those who started high not more like the others, but more deviant. If, however, college does have an "homogenizing" effect, as Jacob (1956) and others have suggested, it may be due to a social-psychological pressure toward the mean. This would tend to increase the gains in TI among those whose initial scores were low, while inhibiting gains among those whose scores were already relatively high at entry.

It is impossible to deal with all these questions here, but it is possible to take some of the problems into account by examining the direction and amount of change separately for those whose initial positions on a given measure were low or high. This is summarized in Table 73 by showing the association between changes in educational values and changes in TI separately for those whose initial scores were high and those whose initial scores were low on TI.

Table 73

SENIOR EDUCATIONAL VALUES BY CHANGE IN FRESHMAN TI AND FRESHMAN EDUCATIONAL VALUES, IN PERCENTAGES

	Freshman Values																	
	Vocational						*Liberal*						*Other*					
	Freshman TI						*Freshman TI*						*Freshman TI*					
	High			*Low*			*High*			*Low*			*High*			*Low*		
	TI Changes[a]						*TI Changes*						*TI Changes*					
Senior Values	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-
Vocational	12	25	40	24	34	43	3	7	15	13	14	36	9	7	17	9	7	b
Liberal	63	60	56	62	43	29	81	77	67	72	70	57	65	70	68	67	59	b
Other	25	15	4	14	23	29	16	16	18	16	16	7	26	23	15	24	33	b
Total (N)	(65)	(106)	(45)	(182)	(120)	(21)	(88)	(156)	(72)	(96)	(43)	(14)	(46)	(60)	(41)	(58)	(27)	(7)

[a] "+" signifies a gain in TI scores; "0" means no change; "-" signifies a decline in score.
[b] Too few cases to warrant reporting.

Table 73 provides clear confirmation that regardless of their initial scores on TI, students whose scores on TI increased (+) were more likely to move from vocational to "general education" values over their four years, more likely to retain general educational values, if that was where they started, and less likely either to persist in vocational values or to change from preferring general education to vocational training. The differences are consistent, but they are clearly larger among those whose initial TI scores were low (-). For example, among those whose initial TI scores were high, the proportions whose preferences shifted from vocational to general education varied from 56 percent to 63 percent, depending on whether TI scores fell or rose. By contrast, among those whose initial TI scores were low, the proportion who switched from vocational to general education was very much greater (29 percent as compared with 62 percent) depending on whether their TI scores fell or rose. Among those who persisted in the commitment to basic general (liberal) education, the relationship between that persistence and change in TI scores was substantial, both for those whose initial TI scores were low and for those whose TI scores were high.

What can one make of these findings? One may conclude, in brief, that the modes of thought measured by the TI scale served as a predisposing factor in changes toward basic general educational values, and also were affected in much the same way by college experience as were basic educational values; as the latter became more liberal, so did TI scores rise. There is here a certain consistency that might be expected: Qualities of mind and psychological dispositions are not only associated at any given moment with systems of values and attitudes, but are also responsive to experience in much the same ways and change concomitantly.

Postgraduate Educational Plans and TI

Thinking Introversion is a measure of a psychological disposition–a way of thinking and feeling–which surely has a value component as well as a cognitive element. In the preceding section it was noted that this disposition both "predicted" changes in educational values (i.e., pointed to a certain readiness for college experience), and also changed with shifts in educational values. In this section the relation of TI to a set of specific plans–the plans that students have for their postgraduate education–will be explored. First as freshmen, and then again as seniors, the students were asked what plans they had for education beyond their first degree. The pattern of changes in these plans between the freshman and the senior years in the several colleges was described in Chapter VII. As pointed out there, by the time they were seniors, the overwhelming majority of the students intended to continue their formal studies, either in graduate or professional school. Taken from all colleges together, 42 percent of the students as seniors planned to go to graduate school, 42 percent thought of going to some professional school, and only 16 percent had no postgraduate plans. (This omits the small number who did not answer or indicated they did not *know*.). The relation of changes in these plans to initial TI scores is shown in Table 74.

Table 74

SENIOR ACADEMIC PLANS BY FRESHMAN TI AND FRESHMAN ACADEMIC PLANS, IN PERCENTAGES

	Freshman Plans (beyond the bachelor's degree)											
	Graduate				*Professional*				*None*			
	Freshman TI				*Freshman TI*				*Freshman TI*			
Senior Academic Plans	*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*
Graduate school	69	68	60	69	35	35	29	14	42	39	26	24
Professional school	26	22	29	27	59	57	63	69	33	41	48	35
No plans to continue school	6	10	11	4	6	8	9	17	26	20	26	41
Total (N)	(165)	(134)	(72)	(26)	(54)	(122)	(91)	(52)	(43)	(128)	(155)	(115)

Of those who initially planned on going on to graduate school, about two-thirds retained those plans as seniors–and these proportions did not vary much among groups with different initial TI scores. But in the case of students whose initial intentions were to go to a professional school or to end their formal education without taking postgraduate work, there was a relation between initial TI scores and change in academic plans. For example, of those whose initial intentions were to go to professional school, the proportion in the lowest TI category who developed intentions to go to graduate school was about one in seven (14 percent). The proportions increased until in the highest initial TI categories, one in three (35 percent) had graduate school intentions by their senior year. Similarly, among those whose freshman plans were not to go on either to graduate school or professional school, between 24 and 42 percent had graduate school aspirations by their senior year. And the higher their initial TI scores, the more likely they were to develop those aspirations.

It is apparent that high initial TI scores were very likely to be associated with the development of aspirations for entry into a graduate department, but had very little bearing on the proportions who developed aspirations for professional school. This is certainly congruent with what is known about the intellectual dispositions measured by TI—the interest in ideas for their own sake rather than for their practical utility or implications.

But what relation is there between *changes* in these personality characteristics over four years and changes in postgraduate plans? Table 75 shows that increases in TI scores (+) were likely to be associated with changes from early plans to go to professional school or to do no postgraduate work to later plans to go to graduate school. Here again, the data were roughly controlled for initial TI score; in all six of the comparisons, those whose TI scores rose were more likely to maintain, or change toward, graduate school aspirations as compared with those whose TI scores

Table 75

SENIOR ACADEMIC PLANS BY CHANGE IN FRESHMAN TI AND FRESHMAN ACADEMIC PLANS, IN PERCENTAGES

	Freshman Academic Plans																	
	Graduate						*Professional*						*None*					
	Freshman TI						*Freshman TI*						*Freshman TI*					
	High			*Low*			*High*			*Low*			*High*			*Low*		
	TI Changes						*TI Changes*						*TI Changes*					
Senior Academic Plans	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-
Graduate	75	66	61	66	56	a	48	28	24	30	12	a	59	35	28	25	25	19
Professional	21	25	28	27	31	a	51	62	62	60	71	a	33	43	38	43	40	48
None	4	9	12	7	13	a	2	10	15	10	17	a	8	22	35	32	35	33
Total (N)	(76)	(142)	(61)	(55)	(32)	(6)	(61)	(71)	(34)	(91)	(41)	(6)	(49)	(77)	(40)	(146)	(97)	(21)

[a] Too few cases to warrant reporting.

remained stable or declined over the four years. For example, among those whose aspirations as freshmen were to attend a professional school, and whose TI scores were initially high, twice as many (48 percent) whose TI scores rose even further came to hold graduate school aspirations by their senior year, as compared with those with the same initial plans and TI scores whose scores remained stable (28 percent) or fell (24 percent) over the four years.

High freshman TI scores, then, pointed to a predisposition to develop (or sustain) the kinds of intellectual, scholarly, or academic interests reflected in an interest in graduate school rather than professional school, and an *increase* in the dispositions measured by TI was also associated with a tendency to move toward academic, scholarly, or scientific rather than professional interests.

Occupational Values and TI

The next step is to look beyond formal education to see what connection there may be between this psychological disposition (TI) and the way in which *occupational* values changed over the students' four years in college. Students were asked, both as freshmen and seniors, to what extent *a job or career would have to satisfy each of these specified requirements before you could consider it ideal:* that it *provide an opportunity to use special abilities; provide a chance to earn a good deal of money;* permit them *to be creative and original;* give them *an opportunity to work with people;* give them *an opportunity to be helpful to others;* or enable them *to look forward to a stable and secure future.* These six possible choices were grouped into three broader categories, the first being a preference for the intrinsic values in their jobs (the first and third responses); a concern for money and security, the extrinsic rewards (the second and sixth responses); and a primary interest in working with and for people (the fourth and fifth responses). Chapter VII showed how preferences in these broad categories changed in the eight colleges between the freshman and the senior years. By the senior year a little over half of the members of the group expressed a preference for the intrinsic values of jobs; about 40 percent an interest in working with and helping people; and only 10 percent a primary interest in the extrinsic rewards of money and security.

If differences between institutions are disregarded for the moment and attention directed to the question of how changes in these values were associated with initial TI scores, one sees in Table 76 a strong relation between high TI scores and retention or change in the direction of a preference for creativity in work. Of those who initially expressed "intrinsic" values, only 58 percent of the low TI scorers retained these values, whereas among the high initial TI scorers, 83 percent continued as seniors to value the opportunities for occupational creativity. Among those who initially expressed people-oriented values, the shift toward intrinsically creative values varied between 21 percent and 52 percent, as between the initial low and initial high TI scorers.* Changes toward the other two categories—external rewards and service to people—were both inversely related to the initial TI scores.

Table 76

SENIOR OCCUPATIONAL VALUES BY FRESHMAN TI AND FRESHMAN OCCUPATIONAL VALUES, IN PERCENTAGES

	Freshman Occupational Values											
	Intrinsic				*Extrinsic*				*Service to people*			
	Freshman TI				*Freshman TI*				*Freshman TI*			
Senior Occupational Values	*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*
Intrinsic values	83	72	55	58	88	45	42	35	52	39	30	21
Extrinsic values	3	4	12	15	-	31	30	29	2	4	2	19
Service to people	14	24	34	26	13	25	28	36	45	57	67	60
Total (N)	(187)	(214)	(148)	(72)	(8)	(49)	(79)	(83)	(86)	(176)	(135)	(67)

Clearly, then, the disposition measured by TI upon entry into college was associated with movement toward more liberal educational values, and with change toward graduate school aspirations and the intrinsic values of "creativity" in future adult occupations. Again it was the initial freshman TI scores that predicted, or indicated a readiness for, change in occupational values. But here, as in the case of changes in educational values, there was also an association between changes in TI and changes in occupational values over the four years. This is apparent only when initial TI scores are controlled.

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*There was also a stronger tendency for those with initially high TI scores to retain "creative" occupational values, as can be observed in the four columns at the left of Table 76.

Table 77 indicates that in every category an increase in TI scores over the college years was associated with an increase in the proportions expressing a preference for creativity on the job, although in some categories the differences were quite small. For example, among those who combined initial preferences for money and security (the "extrinsic" values) with an initially high TI score, only a little over one-third (36 percent) of those whose TI scores had fallen in their four years had come to place primary importance on creativity in their future jobs, as compared with nearly two-thirds (63 percent) of those whose TI scores had risen over the four years. Similarly, among those with an initially high TI score who had an initial interest in helping and working with people, the proportions shifting to intrinsic occupational values differed between 39 percent and 51 percent depending on whether their TI scores fell or rose over the four years. That there is a concomitant variation in the changes in values along with changes in the much more basic psychological dispositions measured by TI seems clear.*

Table 77

SENIOR OCCUPATIONAL VALUES BY CHANGE IN FRESHMAN TI AND FRESHMAN OCCUPATIONAL VALUES, IN PERCENTAGES

	Freshman Occupational Values																	
	Intrinsic						*Extrinsic*						*Service to people*					
	Freshman TI						*Freshman TI*						*Freshman TI*					
Senior Occupational Values	*High*			*Low*			*High*			*Low*			*High*			*Low*		
	TI Changes						*TI Changes*						*TI Changes*					
	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-
Intrinsic	79	78	72	59	55	42	63	46	36	42	28	a	51	40	39	27	26	25
Extrinsic	2	4	5	9	11	58	13	31	46	22	44	a	3	2	7	8	8	5
Service to people	19	18	24	32	34	-	25	23	18	35	28	a	47	58	54	65	66	70
Total (N)	(107)	(187)	(85)	(130)	(73)	(12)	(16)	(26)	(11)	(99)	(50)	(8)	(79)	(110)	(61)	(109)	(65)	(20)

[a] Too few cases to report.

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*This is of course speaking of the students in all the colleges taken together. The main emphasis here is on examining the relationships between these values and attitudes, and changes in them over time. The complexity of analysis and the size of the sample precluded studying these matters at every point for separate colleges or even clusters of colleges.

Cultural Sophistication and TI

Earlier chapters discussed the concept of cultural sophistication and its relation to the educational process, and showed the marked differences in the distributions of cultural sophistication and in changes in those distributions, among the eight colleges.*

Table 78 indicates clearly that initial TI scores were strongly related to the growth of cultural sophistication over the students' four years in college. More clearly than with any of the preceding three indicators of the impact of higher education, the index of cultural sophistication is a sensitive indicator of the combined effects of an initial predisposition to intellectual growth and the experience of higher education. For example, of those whose initial scores on cultural sophistication were medium (2) and whose initial TI scores were low, only 35 percent of the total panel scored high (3) by the time they were seniors. Of those who initially began at the same level of cultural sophistication but whose TI scores were high, 70 percent scored high (3) in cultural sophistication four years later. The same pattern can be seen throughout the table. For every initial level of cultural sophistication, higher TI scores among the freshmen were associated with higher levels of cultural sophistication among the seniors.

With respect to changes in TI scores, Table 79 gives dramatic evidence of concomitant changes in TI and cultural sophistication over the college years. Both among students whose initial TI scores were low and among those whose initial TI scores were high, a rise in TI scores was strongly associated with gains in cultural sophistication; this is also true regardless of initial levels of cultural sophistication.

One basic finding in all of the foregoing, as in Chapter VII, is that there were certain attitudes and values, congruent with the norms of academic life, that presumably were encouraged or strengthened by the experience in college. Students were more likely to go on to graduate school, they tended increasingly to emphasize values of liberal education and creativity in their future occupations, and they became more responsive to certain kinds of cultural experience. A certain psychological disposition specifically that

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*A description of this index can be found at the end of this chapter.

Table 78

CULTURAL SOPHISTICATION OF SENIORS BY FRESHMAN TI AND FRESHMAN CULTURAL SOPHISTICATION, IN PERCENTAGES

		Cultural Sophistication: Freshmen																			
		High 4				*3*				*2*				*1*				*Low 0*			
		Freshman TI				*Freshman TI*				*Freshman TI*				*Freshman TI*				*Freshman TI*			
Cultural Sophistication: Seniors		*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*	*4 (high)*	*3*	*2*	*1 (low)*
Low	0	-	-	-	-	-	-	-	-	-	1	2	3	-	1	4	10	a	6	7	21
	1	-	-	-	a	1	2	3	17	3	11	14	15	14	24	27	39	a	17	56	41
	2	2	8	13	a	9	16	27	33	27	38	30	47	21	32	43	33	a	39	26	31
	3	15	17	88	a	30	44	38	44	44	38	44	30	57	35	22	16	a	35	7	8
		98	92	88	a[b]	90	82	70	50	70	49	55	35	64	44	27	18	a	39	11	8
High	4	83	75	0	a	60	38	32	6	26	11	11	5	7	9	5	2	a	6	4	-
Total (N)		(47)	(24)	(8)	(4)	(139)	(142)	(63)	(18)	(73)	(160)	(133)	(60)	(14)	(92)	(113)	(97)	(3)	(18)	(27)	(37)

[a] Too few cases to report.
[b] This row of figures represents Categories 3 and 4 combined.

measured by the TI scale—appears to have made students more open, more vulnerable to the college experience, and more likely to modify their own attitudes and values in the direction of the dominant norms of academic life. In other words, high thinking introversion among freshmen makes for a vulnerability to the impact of their college experience and a predisposition to change in directions that bring students closer to the model of the academic man. *In addition*, this psychological disposition also changed over the four years, and, as noted above, the disposition changed concomitantly with changes in other values. People who began with high scores on TI were more likely to change their values over their four years in college, and also people whose scores on TI increased, whatever level they began or ended at, were more likely to change their other values and orientations.

Table 79

SENIOR CULTURAL SOPHISTICATION BY CHANGES IN FRESHMAN TI AND FRESHMAN CULTURAL SOPHISTICATION, IN PERCENTAGES

	Cultural Sophistication: Freshman																	
	Low						*Medium*						*High*					
	Freshman TI						*Freshman TI*						*Freshman TI*					
Senior Cultural	*High*			*Low*			*High*			*Low*			*High*			*Low*		
	TI Changes						*TI Changes*						*TI Changes*					
Sophistication	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-
Low	3	30	37	37	53	72	4	12	14	12	16	46	0	1	5	4	7	a
Medium	39	28	33	39	33	22	32	37	39	30	43	38	8	8	16	22	38	a
High	58	42	30	24	13	6	64	52	48	58	41	15	92	90	79	74	55	a
Total (N)	(33)	(57)	(30)	(158)	(90)	(18)	(66)	(112)	(44)	(113)	(61)	(13)	(102)	(154)	(77)	(29)	(54)	(7)

[a] Too few cases to report.

The next several sections will look more closely at some possible sources of these changes in the experience of the student. It may be that the sources of change were too elusive to be easily measured; they may have slipped through the net of our survey instrument. But that cannot be known before exploring some of the patterns of relationship and experience that can be studied through survey methods. The first section deals with the patterns of interaction between faculty and students, and then with patterns of student attitudes toward faculty. The analysis will be based on reports from students given in their senior year. It is assumed that what they reported then had been roughly characteristic of their relations and attitudes to the faculty over most of their time in college. The subsequent section will look at some other aspects of the students' experience on their own campuses. In each case the search will be for patterns of experience in college that can help illuminate the processes of change in both attitudes and Thinking Introversion scores that were documented above.

Student-Faculty Relations in the Eight Colleges

Before turning to the connection between faculty-student relationships and changes in personality and values, it may be useful to sketch one aspect of the educational climates in the eight institutions through the responses of the graduating seniors to a number of questions about their relations with their teachers.

Table 80 shows the pattern of responses to the question, *Have you become personally friendly with any of the teachers here at college? That is, do you feel you can discuss personal matters with them that are not related to course work?* Over 70 percent of the sample of seniors reported that they had become "personally friendly" with at least one teacher, but the proportions varied greatly between the small liberal arts colleges and the two much larger public universities. At each of the six small colleges, regardless of their academic selectivity, the proportions replying *yes* clustered closely between 75 and 81 percent. By contrast, only a little over half the seniors at the University of California at Berkeley said they had become friendly with even one teacher, and the proportion at San

Table 80

SENIOR RESPONSES TO, *HAVE YOU BECOME PERSONALLY FRIENDLY WITH ANY OF THE TEACHERS AT COLLEGE? THAT IS, DO YOU FEEL YOU CAN DISCUSS PERSONAL MATTERS WITH THEM THAT ARE NOT RELATED TO COURSE WORK?* (IN PERCENTAGES)

	Antioch (N=171)	*Reed (N=73)*	*Swarthmore (N=185)*	*S.F. State (N=77)*	*U.C. (N=388)*	*U.O.P. (N=118)*	*St. Olaf (N=302)*	*U.P. (N=93)*
Yes	81	80	77	62	53	77	82	75
No	19	20	23	38	47	23	18	24

Francisco State was slightly more than 60 percent. Students who reported that they were friendly with at least one teacher were then asked, as a rough measure of the quality of the "personal" relationships reported, *Are there any teachers here you know well enough so that you can visit them on your own initiative?* Here again, in Table 81 one sees how much more impersonal the two large public institutions were. In all the small liberal arts colleges, with the exception of Portland, from two-thirds to over 80 percent reported being able to visit a teacher informally; in contrast, only half of the students at the University of California and San Francisco State could do so. Only about a quarter of all the seniors at Berkeley reported being able to visit a teacher on the student's initiative, as compared with two-thirds at Reed. These seniors have been at the same institution for four years: the proportions in the entire senior class, including transfers who had been on campus only a year or two, would undoubtedly have been lower, especially at Berkeley and San Francisco State where transfers made up a majority of the senior classes.

Table 81

SENIOR RESPONSES TO, *ARE THERE ANY TEACHERS HERE YOU KNOW WELL ENOUGH SO THAT YOU CAN VISIT THEM AT YOUR OWN INITIA"IVE?* (IN PERCENTAGES)

	Antioch	*Reed*	*Swarth-more*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
	Seniors *personally friendly with any of the teachers at college*, in percentages							
	(N=149)	*(N=58)*	*(N=143)*	*(N=49)*	*(N=204)*	*(N=92)*	*(N=246)*	*(N=71)*
Yes	72	83	67	51	49	77	75	52
	All seniors, in percentages							
	(N=171)	*(N=73)*	*(N=185)*	*(N=77)*	*(N=388)*	*(N=118)*	*(N=302)*	*(N=93)*
Yes	58	66	52	32	26	59	61	40

This matter was approached in still another way by asking, *Is there any faculty member here to whom you feel particularly responsible and who you believe feels particularly responsible for you?* Nearly two-thirds of the graduating seniors at University of California thought that there was no single faculty member with whom they had such a relationship; at San Francisco State the proportion was 60 percent. The proportions at the smaller colleges were lower, but the differences were not as great as might be expected—roughly half the seniors on all these other campuses reported no such relationship of responsibility (Table 82). This is precisely the relationship that is built into the role of the thesis supervisor in graduate school, but whatever other influence the graduate school has had on undergraduate education—for example, by way of pressure for early specialization—it is clear that this form of apprenticeship is not common even for seniors in the small institutions where it would be feasible.

Table 82

SENIOR RESPONSES TO, *IS THERE ANY FACULTY MEMBER HERE TO WHOM YOU FEEL PARTICULARLY RESPONSIBLE AND ALSO YOU BELIEVE FEELS RESPONSIBLE FOR YOU?* (IN PERCENTAGES)

	Antioch (N=170)	*Reed (N=72)*	*Swarthmore (N=182)*	*S.F. State (N=76)*	*U.C. (N=387)*	*U.O.P. (N=116)*	*St. Olaf (N=301)*	*U.P. (N=91)*
Yes, there is one	41	32	35	24	24	30	37	34
Yes, there are several	15	17	20	16	11	23	18	9
No, there aren't any	44	51	45	60	65	47	45	57

One additional question approaches another aspect of student-faculty relations. The question asked, *During the past year, how often on the average did you meet with instructors privately to discuss course work or the progress of some work of your own?* Again, among the college seniors, these private meetings were strikingly infrequent. Only a little over one-third of the students in the entire sample (Table 83) reported that during their senior year they met with a faculty member to discuss their course work several times a month or more often. But again, the differences between the eight institutions were striking. At San Francisco State fully 80 percent met with their instructors only a few times a semester or less; at Berkeley the proportion was over 70 percent. But the differences between the small liberal arts colleges were almost equally large. At both Swarthmore and St. Olaf—the most educationally conservative of the small colleges—relatively few of the students met individually with faculty very frequently. By contrast, more than one-half of the students at Antioch, Reed, and Portland reported that they met with faculty privately several times a month or more. The Oxford and Cambridge pattern of private tutorials on a weekly basis apparently is very rare in American colleges and universities, even in the most selective liberal arts institutions.

Table 83

SENIOR RESPONSES TO, *DURING THE PAST YEAR, HOW OFTEN ON THE AVERAGE DID YOU MEET WITH INSTRUCTORS PRIVATELY TO DISCUSS COURSE WORK OR THE PROGRESS OF SOME WORK OF YOUR OWN?* (IN PERCENTAGES)

	Antioch		*Read*		*Swarth-more*		*S.F. State*		*U.C.*		*U.O.P.*		*St. Olaf*		*U.P.*	
Almost every day	1	29	3	36	1	19	4	9	1	16	2	23	0	16	3	26
Several times a week	10		14		5		1		5		10		7		9	
Once a week, on average	18		19		13		4		10		11		9		14	
Several times a month	24		19		14		10		13		13		12		23	
A few times during the semeste	38	47	28	45	50	68	58	80	47	71	44	64	54	72	37	51
Never or almost never	9		17		18		22		24		20		18		14	

Student Attitudes Toward Teachers

The preceding section looked at patterns of student-faculty interaction. How did students on these campuses perceive their teachers and how did they feel about them? One aspect of this is the students' perceptions of the faculty's interest in them. Graduating seniors were asked, *What proportion of the faculty members here would you say are really interested in students and their problems?* (Table 84a). The proportions on the several campuses varied sharply: 46 percent of the students at St. Olaf thought *almost all* of the faculty were interested in the students as compared with only 8 percent of the seniors at Berkeley. On the other campuses that response was given by about 20 percent.

If those who thought almost all of the faculty are interested in students are combined with those who answered *over half*, over three-quarters of the students at St. Olaf believed that over half their faculty were *really interested in students and their problems* as compared with between 50 and 60 percent at all the other institutions, except for Berkeley, where the proportion was under one-third.

Table 84a

SENIOR RESPONSES TO, *WHAT PROPORTION OF THE FACULTY MEMBERS HERE WOULD YOU SAY ARE REALLY INTERESTED IN STUDENTS AND THEIR PROBLEMS?* (IN PERCENTAGES)

	Antioch (N=170)	*Reed (N=73)*	*Swarth-more (N=181)*	*S.F. State (N=76)*	*U.C. (N=382)*	*U.O.P. (N=118)*	*St. Olaf (N=301)*	*U.P. (N=92)*
Almost all	20 } 52	20 } 57	22 } 59	16 } 48	8 } 31	19 } 55	46 } 78	17 } 52
Over half	32	37	37	32	23	36	32	35
About half	31	16	24	29	32	23	13	25
Less than half	13	16	14	13	21	16	7	16
Very few	4	10	3	11	16	7	1	7

A similar question was addressed to faculty members on these same campuses: *What proportion of the faculty members here would you estimate are strongly interested in the academic problems of students?* Table 84b shows a remarkable similarity between the faculty and student distributions of responses at five of the eight colleges. From the responses at Berkeley, where only about one-third of faculty or students believed that the majority of faculty were strongly interested in students and their problems, to those at St. Olaf, where over three-quarters of teachers and students shared that view, the distributions point, if not to reality, then to shared perceptions of reality. The discrepancies were only marked at the three selective colleges, where the faculty were a good deal more persuaded of their interest in students than were the students themselves. Further light is shed on the question of the teachers' interest in their students by the students' responses to a question about whether faculty members in their major field were interested in students and their problems. Again, the proportion of seniors at St. Olaf who saw the faculty as interested in students was conspicuously high, while the proportion at the University of California at Berkeley was conspicuously low. The only marked difference from Table 84a was at San Francisco State, where two-thirds of the graduating seniors saw teachers in their own major fields as *almost all* really interested in students and their problems.

Table 84b

FACULTY RESPONSES TO, *WHAT PROPORTION OF THE FACULTY MEMBERS HERE WOULD YOU ESTIMATE ARE STRONGLY INTERESTED IN THE ACADEMIC PROBLEMS OF STUDENTS?* (IN PERCENTAGES)

	Antioch (N=78)		*Reed (N=74)*		*Swarth-more (N=87)*		*S.F. State (N=442)*		*U.C. (N=269)*		*U.O.P. (N=112)*		*St. Olaf (N=111)*		*U.P. (N=102)*	
Almost all	56	86	47	89	62	90	20	56	10	36	25	65	39	78	27	60
Over half	30		42		28		36		26		40		39		33	
About half	10		8		8		25		22		24		17		26	
Less than half	4		3		2		16		31		10		5		11	
Very few	0		0		0		3		11		1		0		2	

There was a similar rough congruence between student and teacher appraisals of the faculty's qualities as teachers (Table 85). Both students and faculty were asked, *What proportion of the faculty members at this college would you consider superior teachers?*

Predictably, with the exception of San Francisco State, the faculty were more likely to see themselves as "superior teachers." But at Antioch and Swarthmore, faculty members were distinctly more self-confident about their teaching skills than their students

Table 85

COMPARISON OF SENIORS AND FACULTY WHO ANSWERED "OVER HALF" TO, *WHAT PROPORTION OF THE FACULTY MEMBERS AT THIS COLLEGE WOULD YOU CALL SUPERIOR TEACHERS?* (IN PERCENTAGES)

	Antioch	*Reed*	*Swarth-more*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Seniors	40	63	68	43	33	15	55	15
Faculty	78	68	94	33	42	29	46	32
difference	38	5	26	-10	9	14	-9	17

were. At Antioch and Swarthmore the difference between student and faculty judgments was very large: indeed, at Swarthmore the faculty was extremely self-congratulatory. By contrast, relatively few seniors or faculty at the Universities of the Pacific and Portland were likely to make favorable judgments of the faculty as teachers. There is no way of knowing what relation these expressed judgments had to reality, and indeed, perhaps the participants did not have a very firm basis for making those judgments. Nevertheless, the judgments themselves are important: A campus which views its own teaching staff as relatively weak is affected by that definition of the situation quite independently of the validity of the judgment; these conceptions of the quality of the faculty are indeed part of the educational climate of the institution. It may well be that they are an element in the relatively slight impact that those campuses had on their students. It is interesting that students at Pacific and Portland made generally negative judgments of their teachers' abilities, although they did not differ from the students elsewhere in their assessments of their teachers' *interest in students and their problems.*

Students' perceptions of their teachers were reflected in their responses to a question on yet another aspect of their teachers' performance: *How intellectually stimulating have you found your teachers here?* The proportion at Swarthmore who found most of their teachers "highly stimulating" was relatively high, while the proportions at Pacific and Portland were conspicuously low, a pattern similar to their judgments of the proportion of superior teachers on their faculties (Table 86).

Table 86

SENIOR RESPONSES TO, *HOW INTELLECTUALLY STIMULATING HAVE YOU FOUND YOUR TEACHERS HERE?* (IN PERCENTAGES)

	Antioch (N=171)	*Reed (N=73)*	*Swarthmore (N=185)*	*S.F. State (N=77)*	*U.C. (N=386)*	*U.O.P. (N=118)*	*St. Olaf (N=302)*	*U.P. (N=92)*
Most of them highly stimulating	15	27	40	12	18	5	18	2
About half highly stimulating	49	49	45	54	43	37	57	32
Few of them highly stimulating	35 } 35	23 } 23	15 } 15	34 } 34	39 } 40	55 } 57	25 } 25	64 } 66
None of them highly stimulating	1	0	-	0	1	2	-	2

It illuminates these issues if we order the eight colleges along the two dimensions of "faculty-student interaction" and "student assessment of their teachers." There are three indicators of each dimension. The indicators for the dimension of student-faculty "interaction" are the questions: *Are there any teachers that you can visit on your own initiative? Is there any faculty member to whom you feel particularly responsible?* and *How often on the average did you meet with instructors privately?* If the colleges are ordered on each of these items, a score from 1 (low) to 8 (high) is assigned to each, and the scores are summed. The resulting rank order and scores are as follows:

Combined Rank Order	*Score*	*Category*
Reed	20	High
Antioch	20	
U. of the Pacific	16	Medium
St. Olaf	15	
Swarthmore	15	
U. of Portland	12	
S.F. State	5	Low
U. of California	5	

The same can be done for the "student assessments of teachers," for which the indicators were: *What proportion of the faculty members here would you say are really interested in students and their problems? What proportion of the faculty members at this college would you consider "superior teachers"? How intellectually stimulating are your teachers?*

The combined rank order of the scores on this dimension were:

Combined Rank Order	*Score*	*Category*
Swarthmore	23	High
Reed	20	
St. Olaf	20	
S.F. State	12	Medium
Antioch	12	
U. of the Pacific	8	Low
U. of California	7	
U. of Portland	6	

In both listings the colleges were assigned to high, medium, and low categories, with the following typology of institutions located on a two-dimensional grid:

Faculty-Student Interaction, as Reported by Seniors

		High	*Medium*	*Low*
Senior assessments of faculty as teachers	High	Reed	St. Olaf	-
	Medium	Antioch	-	S.F. State
	Low	-	U.O.P. U.P.	U.C.

The distribution of institutions on this typology is of interest in several respects. First, the colleges clearly fall into two clusters: those which are high or medium on both dimensions, and those which are low or medium on both. In the first cluster are the three most selective institutions and St. Olaf, the one other small liberal arts college which is in all respects most like the three selective institutions. The other cluster includes the two large public institutions and the two less selective private colleges. The relation between student-faculty interaction and positive assessments by students of faculty is clear for whole institutions as well as for individuals within institutions. Moreover, the clusters suggest something else—that *size is significant for students' relations with and assessments of their teachers only when accompanied by quality.* In one cluster, indeed, one finds the elite private liberal arts colleges; in the other, despite their very great differences in other respects, the large public universities and the two weaker small private colleges.

It would seem that, unlike students at Portland or University of the Pacific, students at Berkeley brought with them expectations of college more nearly like those of students at Reed or Swarthmore—expectations encouraged by the intellectual quality of the faculty and the campus climate. But it may well be that the pattern of relationships which was accepted as natural or inevitable at Portland or Pacific called forth a different response on the part of students at Berkeley, who had different expectations and conceptions of college. Although one can only speculate, it is not unlikely that herein lies at least part of the explanation of the recent manifestations of discontent at the two larger public institutions in the sample.

Student-Faculty Relations and Changes in TI

The last two sections explored some aspects of students' interaction with their teachers and their attitudes toward and perceptions of them as these differed in the eight institutions. This explanation was made, in part, to further characterize the institutions and, in part, to lay the groundwork for the second central aim of this chapter—to identify and illuminate some of the factors in college that affect the intellectual growth over the college years. Now, therefore, the purpose is specifically to see whether the survey data can shed any light on the question of whether students' relations with their teachers can help in understanding changes in the former's attitudes and qualities of mind.

Again, the size of the sample and the desire to simplify the presentation made it desirable to combine the institutions into three groups: the three selective liberal arts colleges—Antioch, Reed, and Swarthmore; the two large public institutions—San Francisco State and Berkeley; and the three private liberal arts colleges—Portland, Pacific, and St. Olaf. Analyzing the data in this way shows the general patterns; most of these relationships, however, have been tested for each of the eight colleges separately, and unless otherwise noted, the general patterns hold up when subjected to that finer analysis. Again, as in the earlier section, changes in TI are analyzed with freshman TI scores controlled, since the initial scores so heavily condition the possibilities of increase or decrease in scores over the four years.

The first indication of faculty-student interaction is in replies to the question, *During the past year how often on the average did you meet with instructors privately to discuss course work or the progress of some work of your own?* There is widespread belief that such frequent student-teacher meetings on a one-to-one basis are a highly desirable mode of pedagogy, the chief constraint, of course, being large numbers and small resources and the resulting poor faculty-student ratio. But if the seniors' reported experience is taken as an indication of their frequency of meeting with their teachers over the whole of their college experience, then Table 87 reveals an interesting pattern: An increase in TI score was associated with frequent meetings with teachers only among those whose initial (freshman) TI scores had been low, but not in any consistent way among those whose initial scores had been high.

Table 87

INCREASE IN TI SCORE BY RESPONSES TO, *DURING THE PAST YEAR, HOW OFTEN ON THE AVERAGE DID YOU MEET WITH INSTRUCTORS PRIVATELY TO DISCUSS COURSE WORK OR THE PROGRESS OF SOME WORK OF YOUR OWN?* (IN PERCENTAGES)

	Freshman TI					
	High			*Low*		
	How often met			*How often met*		
College groups	*Once/wk. or more*	*Several times/mo.*	*Few times or never*	*Once/wk. or more*	*Several times/mo.*	*Few times or never*
Antioch, Reed, Swarthmore	30 (80)[a]	34 (55)	28 (149)	77 (13)	72 (18)	70 (59)
S.F. State, U.C.	34 (32)	32 (28)	32 (153)	69 (29)	57 (21)	55 (159)
U.O.P., St. Olaf, U.P.	32 (50)	18 (27)	25 (126)	67 (43)	62 (39)	54 (198)

[a] Numbers in parentheses are the cases in each cell, e.g., out of 80 students at Antioch, Reed, and Swarthmore with initially high TI scores who reported meeting once a week or more with instructors, 30% showed increases in their TI scores between the freshman and senior years.

While the differences were not very large, the finding at least suggests the possibility that students who arrived at the university with a high degree of intellectual maturity and with many of the characteristics of educated men, as indicated by high TI scores, may have been relatively independent of relations with the faculty for continued intellectual growth, while for those whose initial scores were low, relationships with the faculty may have played a more important role in their development over the college years.

Additional evidence for the influence of close student-faculty relations on the change in TI scores can be found in Table 88, which records responses to the question, *Have you become personally friendly with any of the teachers here at college–and do you feel you can discuss personal matters with them that are not related to course work?* In five of the six comparisons, those who did have such personal relations were more likely to have shown an increase in TI scores over the college years as compared with those who did not have such relationships. The only exception was among the students in the three elite colleges whose initial TI scores were very high, and it may well be that their scores were so high to begin with that a ceiling effect reduced the usefulness of the scale for measuring change in this instance.

Table 88

INCREASE IN TI SCORE BY RESPONSES TO, *HAVE YOU BECOME PERSONALLY FRIENDLY WITH ANY OF THE TEACHERS AT COLLEGE? THAT IS, DO YOU FEEL YOU CAN DISCUSS PERSONAL MATTERS WITH THEM THAT ARE NOT RELATED TO COURSE WORK?* (IN PERCENTAGES)

	Freshman TI			
	High		*Low*	
	Personally friendly		*Personally friendly*	
College groups	*Yes*	*No*	*Yes*	*No*
Antioch, Reed, Swarthmore	29 (229)	33 (55)	75 (63)	61 (28)
S.F. State, U.C.	38 (117)	26 (98)	65 (110)	50 (99)
U.O.P., St. Olaf, U.P.	29 (164)	13 (39)	59 (222)	51 (59)

Student-Faculty Relations and Changes in Occupational Values

The bearing of student-faculty relations on changes in students' values as reflected in the qualities they demanded of the ideal occupation or profession is also of interest. In question is the bearing of student-faculty relations on changes in values from an initial preference for a high income or for occupational security to the other values–the intrinsic rewards of the job (the opportunities it affords for creativity), or the opportunity to be of service to people. In Table 89 can be seen the pattern of change in values associated with having a personal friend on the faculty.

Data are given only for the two large public institutions and the three less selective private colleges, since the numbers at the three selective institutions who at any time gave "money" or "security" as their highest priority were too small for analysis.

In the two large public institutions, the great majority of all students who initially expressed a preference for security and pay in their future jobs changed their mind by the time they were seniors. But they were even more likely to reject their initial "money-security" preferences if they had come to be personally friendly with one of their teachers: 80 percent of those with a friend on the faculty changed their preferences, as compared with 68 percent among those without such a friend. In the three private colleges, having a friend on the faculty made even more difference as to whether these early "extrinsic" values persisted or changed. Among those who had such a friend on the faculty, only a little over a quarter (28 percent) still held these values by their senior year, as compared with over half (52 percent) of those in the same schools who did not have a friend on the faculty.

Table 89

CHANGE IN OCCUPATIONAL VALUES FROM FRESHMAN TO SENIOR YEAR BY, *ARE YOU PERSONALLY FRIENDLY WITH ANY TEACHERS?* (IN PERCENTAGES)[a]

	U.C., S.F. State		*U.O.P., St. Olaf, U.P.*	
	Personally friendly		*Personally friendly*	
Senior Occupational Values	*Yes* *(N=51)*	*No* *(N=41)*	*Yes* *(N=74)*	*No* *(N=23)*
Intrinsic ("creative")	51	46	31	26
Extrinsic ("money," "security")	20	32	28	52
Service ("people," "help others")	29	22	41	22

[a] Base is those who, as freshmen, gave primacy to extrinsic values.

The direction of the shift is interesting: At the two public institutions, most students who changed came to put primacy on the "creative" qualities of their future jobs. In the three private colleges, the shift was more toward the values of "service to people," and this was congruent with what is known about these small colleges, each of which has religious denominational ties or traditions. In these service-oriented institutions, close personal relations with a faculty member served to transmit and reinforce the institution's values.*

But while having a friend on the faculty bore some relation to the students' gains in TI and to changes in their occupational values, it showed no such relationship to the students' academic values, where one might most expect to see its influence. Table 90 shows that among those whose initial values were other than *basic general education,* there was no appreciable difference between those who did or did not have friends on the faculty in the proportions expressing different value preferences four years later. (And the same

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*However, for students who already held these "creative" values on entry, having a friend on the faculty had no bearing on the retention of those values over the college years.

Table 90

CHANGE IN ACADEMIC VALUES FROM FRESHMAN TO SENIOR YEAR BY, *ARE YOU PERSONALLY FRIENDLY WITH ANY TEACHERS?* (IN PERCENTAGES)

	Antioch, Reed, Swarthmore		*U.C., S.F. State*		*U.O.P., U.P., St. Olaf*	
	Personally friendly		*Personally friendly*		*Personally friendly*	
Senior Values	*Yes (N=183)*[a]	*No (N=47)*	*Yes (N=88)*	*No (N=74)*	*Yes (N=101)*	*No (N=33)*
Provide vocational training	9	13	15	11	10	0
Ability to get along with other people	3	0	6	3	11	6
Provide basic general education	78	79	74	74	66	67
Develop interest in community and world affairs	4	0	3	5	5	6
Develop moral capacities	5	6	2	7	8	15
Prepare for happy marriage	1	2	0	0	0	6
	(N=146)[b]	*(N=41)*	*(N=152)*	*(N=136)*	*(N=297)*	*(N=69)*
Provide vocational training	14	10	24	20	25	29
Ability to get along with other people	5	5	7	9	10	15
Provide basic general education	71	76	61	61	51	45
Develop interest in community and world affairs	3	2	3	7	4	0
Develop moral capacities	6	7	4	3	7	4
Prepare for happy marriage	1	0	2	0	3	7

[a] Base is those who, as freshmen, valued general education.
[b] Base is those who, as freshmen, valued other than general education.

absence of relationship may be seen in the patterns of retention and change of values among those who expressed a preference for *basic general education* as freshmen.) Large proportions of students, ranging from 45 percent to 75 percent, in all three categories of institutions, who did not originally hold these values moved toward a belief in the primary importance of a *basic general education* by the time they were seniors (Chapter VII). But whatever moved them, having a friend on the faculty did not seem to be a significant factor.

With respect to academic plans rather than values (Table 91), the data show that of those who as freshmen did not plan to go to graduate school, between 15 percent and 42 percent developed such plans while in college (the increases were largest in the elite colleges, as was shown in Chapter VII); slightly higher proportions of those with a friend on the faculty developed these plans. Faculty friendships bore a more marked relationship to the retention of plans for graduate study: For example, in the two large public institutions, the difference in the proportions who retained graduate school aspirations was between 45 percent of those without a faculty friend, and 68 percent among those who reported having such a friend. But again, whatever factors accounted for the change in

Table 91

CHANGE IN ACADEMIC PLANS BY, *ARE YOU PERSONALLY FRIENDLY WITH ANY TEACHERS?* (IN PERCENTAGES)

	Antioch, Reed, Swarthmore		*U.C., S.F. State*		*U.O.P., U.P., St. Olaf*	
	Personally friendly		*Personally friendly*		*Personally friendly*	
Senior Academic Plans	*Yes (N=137)*[a]	*No (N=39)*	*Yes (N=152)*	*No (N=137)*	*Yes (N=260)*	*No (N=66)*
Graduate school	42	36	25	18	33	29
Professional school	39	51	61	62	43	44
None	18	13	14	20	24	27
	(N=174)[b]	*(N=44)*	*(N=73)*	*(N=42)*	*(N=78)*	*(N=13)*
Graduate school	75	57	68	45	67	62
Professional school	21	27	27	50	23	7
None	4	16	5	5	10	31

[a] Base is those who, as freshmen, indicated *No Further Academic Plans* or *Professional School.*

[b] Base is those who, as freshmen, indicated *Graduate School.*

postgraduate plans, it did not appear that having a personal friend on the faculty was significant for more than a very small minority. This of course does not rule out the possibility that faculty members had great influence on students' academic plans in their other roles as teachers, counselors, and models.

MAJOR FIELD OF STUDY, AND CHANGES IN VALUES AND PLANS

Another possibly significant aspect of the student's experience in college is his major field of study. It would seem plausible that students in certain fields, particularly the social sciences and humanities, would be influenced by what they studied and would be more likely to show gains in their TI scores and movement toward more "academic" values and aspirations, than, say, students in such applied fields as engineering or business administration. These expectations were partially borne out (Table 92) for those whose initial TI scores were high; the proportions of those in humanities and social science majors showed gains in TI roughly double the proportions of those in engineering and business administration—39 percent and 32 percent as compared with 13 percent and 14 percent, respectively. But the pattern was not borne out among those with initially low TI scores; although the students in the humanities showed the highest proportion with gains in TI scores, the differences between the other major areas were small and inconsistent, for reasons that are not now clear.

Table 92

STUDENTS WHO INCREASED IN TI SCORE FROM FRESHMAN TO SENIOR YEAR, BY MAJOR FIELD, IN PERCENTAGES

	Freshman TI	
Major	*High*	*Low*
Social Science	32 (148)	57 (109)
Humanities	39 (265)	66 (148)
Natural Science	22 (165)	59 (111)
Business	14 (21)	58 (31)
Education	23 (26)	60 (53)
Engineering	13 (15)	65 (34)

The connection between major field and changes in academic plans was more clear and straightforward (Table 93). Both among those who started with different plans and those who already had graduate school aspirations as freshmen, students who majored in science were most likely to change toward or retain those plans over the four years. Science courses, to a greater degree than the humanities and the social sciences, clearly served to recruit and train undergraduates for postgraduate work in their fields.

Table 93

STUDENTS WHO CHANGED ACADEMIC PLANS FROM FRESHMAN TO SENIOR YEAR, BY MAJOR FIELD, IN PERCENTAGES

	Major					
Senior Plans	*Social Science (N=169)*[a]	*Humanities (N=235)*	*Natural Science (N=130)*	*Business (N=41)*	*Education (N=62)*	*Engineering (N=43)*
Graduate	27	37	46	6	29	2
Professional	45	37	43	46	43	77
None	21	17	9	27	17	17
Other	8	9	3	21	11	5
	(N=95)[b]	*(N=165)*	*(N=154)*	*(N=5)*	*(N=10)*	*(N=7)*
Graduate	59	60	73	[c]	30	14
Professional	19	26	20	[c]	60	71
None	13	9	4	[c]	0	0
Other	10	5	3	[c]	10	14

[a] Base is those who, as freshmen, indicated *Professional Academic Plans* or *None*.
[b] Base is all those who, as freshmen, indicated *Graduate Academic Plans*.
[c] Too few cases to report.

Finally, if one looks at gains in cultural sophistication as they were related to major field, he sees (Table 94) that of those whose initial cultural sophistication scores were low, students who majored in humanities and social science were most likely to have high scores as seniors, while the students in engineering and business were least likely to move that much or that far. This was very markedly the case in the three most selective liberal arts colleges, where some 60 percent of those majoring in the humanities moved from low to high scores over the four years.*

Table 94

CHANGE IN CULTURAL SOPHISTICATION, BY MAJOR FIELD, IN PERCENTAGES

	Major					
Senior Cultural Sophistication	*Social Sciences (N=84)*[a]	*Humanities (N=102)*	*Natural Science (N=91)*	*Business (N=30)*	*Education (N=27)*	*Engineering (N=23)*
Low	35	25	41	51	37	43
Medium	31	36	33	27	41	48
High	35	39	26	13	22	9

[a] Base is those who, as freshmen, were low in cultural sophistication.

CONCLUSIONS

The major task in this chapter was to explore the congruence between a carefully developed measure of one aspect of student personality with other measures, drawn from a survey instrument, of related attitudes, orientations, and plans. The latter measures, in their several ways, tapped those aspects of personality and values which are central to the purposes of academic life: Pleasure in the life of the mind, in learning for its own sake, creativity in work, and cultural sophistication. The study was concerned not only with the distribution of these qualities and orientations, but with their growth and development over the college years. For this reason the analysis focused on those students in the sample who had remained in the same institution and responded to the questionnaires both as freshmen and then four years later as seniors.

The analysis showed, first, marked differences in the extent of changes in TI scores among the students who stayed four years in the eight colleges. These findings parallel those discussed in Chapter VII: Students in the three highly selective liberal arts colleges started higher and changed more, over the four years, in their TI scores as well as in the variety of attitudes whose patterns of change were explored earlier.

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*There is evidence in other studies of the differential impact of the college environment by type of residence (for example, Selvin and Hagstrom, 1960). But expectations of seeing any clear connection in the present study were not strong. Because of the differing opportunities for living arrangements on the campuses, the residential history of each student could not be studied, and his senior residence was used as indicative of where he had been living most of his college career. The examination of the bearing of residential arrangements on these values and orientations was therefore inconclusive.

From this the analysis turned to an examination of the relation of initial TI scores and change in TI to changes in certain "academically-related" attitudes and orientations: educational and occupational values, educational plans, and levels of cultural sophistication. The findings, subject to the qualifications and variations discussed in the text, were broadly consistent. They showed that initial TI scores were good predictors of changes in these values and orientations; students with higher TI scores as freshmen were more likely to maintain, or to move toward, the values of liberal education, creativity in work, and plans to go on to graduate school than those with initially low TI scores, and also showed a gain in the preferences measured by an index of "cultural sophistication." In stating this finding more dynamically, it was suggested that higher initial TI scores pointed to an openness or vulnerability to higher education which showed itself in changes during the college years. Unfortunately, the relatively small numbers in the four-year group and the complexity of the analyses made it impossible to determine whether the gains at the several colleges varied: It was not possible, therefore, to test the hypothesis that here again the highest gains would be registered among those in the three selective colleges.

After having shown a connection between initial TI and change in three other attitudes and values, the analysis next turned to whether these same attitudes and values changed concomitantly with TI over the four college years. For this analysis it was necessary to control, at least roughly, for initial TI scores. The findings, overall, were clear and unequivocal: Among those whose initial TI scores were either high or low, a pattern of TI changing with changes in educational and occupational values, educational plans, and "cultural sophistication" was apparent. In four tables, involving 24 independent sets of comparisons between those whose TI scores rose and fell, 20 of the comparisons were in the expected direction, one was a reversal (by a small margin) and three lacked sufficient cases in one category to allow for the comparison to be made.* But of the latter three, a comparison could be made between those whose TI scores rose and those whose scores remained roughly constant over the four years. In all three cases, the differences were also in the expected direction across this shorter range.

*The comparisons were made across the following categories of the dependent variable (those of course were all senior attitudes or values): the proportion holding "liberal" education values; the proportion with plans to go to graduate school; the proportion with "creative" occupational values; and the proportion scoring "high" on the index of cultural sophistication.

Thus, with only one exception in 24 comparisons, the students whose TI scores rose over the four years were also more likely to show changes in other values and orientations in "academic" directions. Some of the differences were small, some large. But the consistency of the pattern is at least as persuasive as the size of the relationships. Students did change over their college years, both in aspects of personality and in certain closely related attitudes and preferences; and they changed in directions that most academic men would consider desirable.

After the presentation of these relationships between TI and other "academically-related" values and orientations, the second half of the chapter moved to a somewhat different question: Is it possible to identify any specific relationships or experiences in college that help to understand or account for the changes being considered? As an introduction to this question, the analysis dealt first with various aspects of student-faculty relationships at the eight colleges. One notable, if not unexpected finding was that these relationships were less common and less close in the two large public institutions than in the small private ones. The differences between the six small private colleges were not very large overall, although there were differences between the most selective colleges and the others when student and faculty perceptions of the faculty's interest in the student and in their competence as teachers were analyzed. Differences in the distributions between students and faculty tended to be larger in the selective colleges, where the faculty were more likely than the students to see themselves as interested in students and (particularly at Antioch and Swarthmore) as superior teachers. This difference in group perceptions, which may point to underlying strains and tensions in the institutions, is a subject that calls for separate and more intensive examination.

The colleges were then ranked on three indicators of each of two dimensions of student-faculty relationships: a dimension of *interaction*, and a dimension of student *assessment* of faculty. A composite score on these rankings made it possible to locate the eight colleges on a two-dimensional grid which revealed two clusters–one comprising the three selective colleges and St. Olaf, which showed relatively high scores on both dimensions; the other, comprising the University of California, Berkeley, San Francisco State, Portland, and University of the Pacific, which had relatively low scores on the two dimensions.

The analysis turned next to the question of whether those student-faculty relationships appeared to have any effects on the patterns of change or retention of the "academically-related" attitudes, values, and orientations which the students held as freshmen. The findings on this score were somewhat mixed: In five out of six comparisons, there was an association between student-faculty relationships and gains in TI scores; little or no association with changes in educational or occupational values; and moderate to strong relationships with changes to or retention of plans to attend graduate school. The measure of student-faculty relationships was a simple and crude one, and could hardly be used to explore the character of those relationships or the social-psychological processes in which they were implicated. Nevertheless, even this measure produced findings which help to specify questions for a more focused and intensive study of these processes on college campuses.

In brief, then, this chapter showed:

1. The marked differences in degree of change toward academically-related aspects of personality and values between the eight colleges.

2. The clear relationship of a personality characteristic (TI) as measured at college entry with subsequent changes in "academically-related" values and plans.

3. The concomitant change of scores on TI with these other values and plans over the four years.

4. The marked differences between the eight colleges in aspects of faculty-student relations (and perceptions).

5. The somewhat mixed evidence for the influence of these personal relationships on changes in TI and the other academically-related values and plans.

6. Some evidence, far from conclusive, about the bearing of a student's major field in college on the changes in personality and values with which the chapter was concerned.

A NOTE ON OCCUPATIONAL AND EDUCATIONAL VALUES AS THEY RELATED TO SCORES ON CULTURAL SOPHISTICATION AND THINKING INTROVERSION

It may help to see the meaning of the TI score, and also to demonstrate its consistency of meaning in the eight quite different institutions, if its relationship with certain other values with which one would expect it to be associated is shown. The first of these values is the question of what the student valued most in a job or career. As noted earlier in this chapter and in Chapter VII, the six possible responses were grouped into three categories, the first pointing to a preference for an opportunity to be creative and original, the second to the chance to earn a good deal of money and have security, the third to the chance to work with people and be helpful to others. Among the seniors in each of the eight institutions (Table A-1), higher TI scores were strongly and positively related to a preference for a job which permits creativity and inversely related to a concern with money and job security. This indeed is what one would expect on the basis of the qualities of mind and interest that TI intends to measure. The relationship of TI scores to a concern for helping people is much smaller and less consistent–and indeed there is nothing in the scale that aims to tap that particular dimension of personality.

Table A-2 shows a similar relation between senior TI scores and educational values. In every college, those with "high" TI scores were less likely than those with "low" scores to believe that the chief purpose of college is to gain vocational skills, and more likely to see the chief end of college as a basic liberal education. The pattern is consistent, although in a few colleges not strong, and there are a few reversals in the middle categories. But Table A-3 shows a strong and consistent relation between senior scores on TI and on the index of "cultural sophistication." The relationship was strong in every institution, despite the very large differences between the eight colleges in average scores on both measures.

Table A1

SENIOR OCCUPATIONAL VALUES, BY SENIOR TI SCORES, IN PERCENTAGES

	Antioch			*Reed*			*Swarth-more*			*S.F. State*			*U.C.*			*U.O.P.*			*St. Olaf*			*U.P.*		
	N=(29)	*(57)*	*(73)*	*(4)*	*(25)*	*(31)*	*(29)*	*(60)*	*(87)*	*(33)*	*(20)*	*(21)*	*(112)*	*(133)*	*(120)*	*(50)*	*(39)*	*(22)*	*(111)*	*(104)*	*(71)*	*(56)*	*(28)*	*(8)*
Values	*L*[a]	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*
Intrinsic ("creative")	48	67	68	-	84	94	45	62	78	33	60	81	49	47	69	32	26	55	31	38	51	32	50	62
Extrinsic ("money")	17	2	4	-	0	0	17	7	3	12	5	5	22	14	2	30	18	0	12	8	0	27	4	0
Service ("people")	34	32	27	-	16	6	38	32	18	55	35	14	29	38	29	38	56	45	58	54	49	41	46	38

Table A2

SENIOR EDUCATIONAL VALUES, BY SENIOR TI SCORES, IN PERCENTAGES

	Antioch			*Reed*			*Swarth-more*			*S.F. State*			*U.C.*			*U.O.P.*			*St. Olaf*			*U.P.*		
	N=(30)	*(57)*	*(74)*	*(4)*	*(25)*	*(29)*	*(29)*	*(60)*	*(88)*	*(33)*	*(20)*	*(21)*	*(110)*	*(130)*	*(117)*	*(51)*	*(38)*	*(22)*	*(112)*	*(104)*	*(70)*	*(57)*	*(27)*	*(8)*
Values	*L*[a]	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*
Vocational	27	18	1	-	16	10	10	12	8	42	20	24	30	13	8	39	34	18	17	11	6	33	44	12
Liberal	57	67	78	-	80	79	76	82	81	55	65	71	55	69	77	43	50	64	56	62	59	42	30	62
All others	17	16	20	-	4	10	14	7	11	3	15	5	15	18	15	18	16	18	27	27	36	25	26	25

[a] TI scores: Low = 10.0 - 49.9; Medium = 50.0 - 59.9; High = 60.0 - 89.9.

Table A3

SENIOR CULTURAL SOPHISTICATION, BY SENIOR TI SCORES, IN PERCENTAGES

Cultural Sophistication		*Antioch*			*Reed*			*Swarthmore*			*S.F. State*			*U.C.*			*U.O.P.*			*St. Olaf*			*U.P.*		
	(N)=	*(30)*	*(56)*	*(74)*	*(4)*	*(25)*	*(31)*	*(28)*	*(58)*	*(85)*	*(32)*	*(20)*	*(20)*	*(105)*	*(130)*	*(115)*	*(47)*	*(35)*	*(19)*	*(110)*	*(105)*	*(71)*	*(53)*	*(26)*	*(8)*
		L	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*	*L*	*M*	*H*
Low	0-1	30	4	3	-	8	3	32	2	-	25	-	5	39	17	4	51	14	5	26	17	7	47	27	12
	2	17	30	9	-	8	16	32	10	11	38	30	20	42	38	23	34	43	26	39	34	18	38	31	62
High	3-4	[illegible]	66	88	-	84	81	36	88	90	37	70	75	19	46	73	15	42	69	35	49	75	15	43	25

INDEX OF CULTURAL SOPHISTICATION

Index composed of responses to:

a. *How many books do you yourself own (not counting textbooks but counting serious paper-backs)?*

b. *How well do you like serious or "classical" music?*

Scored as follows:

	Answer	Score
a.	0-15 Books	0
	16-75 Books	1
	76+ Books	2
b.	Very much	2
	Moderately	1
	Not much	0

Range of index:

0 = low sophistication
4 = high sophistication

9

The Institution and the Faculty

The earlier chapters have provided introductory portraits of eight campuses, descriptions of freshman classes and explanations of why they differ, and a number of assessments of changes occurring in students during the undergraduate years. There remains the insistent question of why students change or do not change in particular ways in the different colleges, a problem that calls for an attempt to connect the nature of the campus to the nature of the change. This critical issue, important to the educator, layman, and researcher, should be confronted, however inadequate the research tools at hand. The influence of the campus on the student, approached piecemeal in previous chapters, is the subject of the final section.

The concluding chapters offer broad interpretations based on qualitative impressions as well as the quantitative materials assembled by questionnaires and personality inventories. Impressions were gathered over five years of field work that included analysis of records and other documents, semi-structured interviewing of administrators and faculty members, and observation of campus affairs. This fieldwork was most intensive at Antioch, Reed, and Swarthmore–three of the four small colleges with which the study began. The work was moderately intensive at San Francisco State, and minimally so at the other four campuses.

How does a campus influence student development? For the individual student it is often chance occurrences that have a significant effect–the casual meeting that leads to deep friendship or marriage, a liking for a particular professor, which is returned, the vow about self and career taken on the flight of a full moon. But behind and around the fortuitous lie certain institutional patterns, such as the administrative structure and the common attitudes of the faculty. This chapter reviews the different purposes, the administrative structures, and the teaching staffs of the colleges as determinants of the campus climate that may have influenced the students.

Purpose, structure, and staff are basic components of any organization, and American colleges need to be approached in these fundamental terms. They differ in intention; they organize themselves internally in quite different ways and offer different arrays of programs; their faculties come with, or develop, different perspectives and play different roles.

THE PURPOSES OF THE COLLEGE

The brief institutional portraits of Chapter III suggested considerable differences between the purposes of the eight colleges. In relating purposes to campus impact on students, three dimensions are particularly significant: the degree of singleness of purpose; the extent of religious intent; and the balance between vocational and liberal education.

The singularity or multiplicity of institutional purposes is a prime determinant of what the student will experience as the environment of learning. From a relatively singular purpose, e.g., undergraduate liberal education alone, there usually follows small size, an uncomplicated structure, and a relatively unified campus culture; from multiple purposes, e.g., the many intentions of the state university, there usually follows large size, a complicated structure, and a fragmented culture. Purpose here may influence the student through effect on size and structure and finally through the degree of unification of campus values and campus life.

Berkeley has complex purposes. Its nature as a system of undergraduate learning begins with the institution's multiple commitments–research, graduate education, specific preparation for a wide range of occupations, and service to many industries and many governmental bureaus. These constitute a large family of programs in which undergraduate liberal education is but one, and often a minor one. Berkeley's eminence and its wish to be well-regarded nationally and internationally, as well as in its own state, heighten the strains built into the character of this evermore complex state university. The undergraduate student is thus in an exceedingly cosmopolitan environment, one that is large, extensively differentiated internally, and busy with other tasks that touch the undergraduate only incidentally if at all. As San Francisco State evolves toward the status of a state university, there too the undergraduate enjoys the benefits of a multifaceted intellectual environment–and pays the cost of having the faculty and administration increasingly busy elsewhere.

Little or none of this complexity occurs in the small liberal arts college or the university of 2,000 students, for their task is relatively singular. At Pacific and Portland, as well as at Antioch, Reed, Swarthmore, and St. Olaf, men devote themselves to the undergraduate because they want to, because they are less deeply engaged in other duties, and because the undergraduate is clearly the center of institutional life. The concentration of purpose is reflected in relatively uncomplicated structure and a relatively unitary environment. The concentrated attention is, on balance, beneficial for undergraduate education. Concentration on undergraduates will not overcome such features as the faculty mediocrity or student disinterest found in many small colleges; but when these problems of attraction and recruitment are solved, institutions of concentrated effort should have more impact than institutions of dispersed energies. Swarthmore is an excellent example of what happens when the liberal arts college comes off well. There is nothing like its compact environment in the complex institutions organized around many disciplines and professional schools. University faculty often prefer to think that this difference between good liberal arts colleges and good universities does not exist–until the time comes when they must decide where to send a son or daughter for a good undergraduate education.

Religious intent is the second critical factor involved in purpose. The first fact about the University of Portland is the primacy of its commitment to Catholicism; a primary, if not the first fact about St. Olaf is the strength of its tie to Lutheranism;

of some importance in the tone of University of the Pacific is the nominal connection of the old campus to west coast Methodism. These three campuses are not interchangeable with secular institutions. The religious purpose makes them different to the extent that the general denominational commitment is reflected in faculty values, curriculum requirements, and the attraction and selection of students. Religious purpose is intrinsic at Portland and St. Olaf and this purpose is reflected in the conservation of students' religiosity during the undergraduate years. Weak commitment to religion in the public colleges and the secular private colleges, on the other hand, is a source of secularizing impact on students. Religious-secular differences in purpose do not affect the climate of learning through campus size and organizational complexity, but through recruitment (of faculty and students) and program.

To have studied any one of the conservative Protestant colleges that still dot the countryside, especially in the middle west, the border states, and the South, would have greatly extended this picture of differences in religious purpose and correlated differences in campus impact. Those who believe that American higher education conforms to only one or two styles should compare the experiences of thousands of students, for whom college is a Christian fundamentalist institution, with the experiences of other thousands of students for whom college is the Ivy League. Those who live in these disparate environments hardly partake of the same world.

A third form of significant variation in college purpose, reflected often in many components of a campus, is the historic and vague distinction between shaping the character of students through a general education and transmitting a body of pragmatic knowledge and skills; between "education" in the broad sense and "training" for work. Colleges and universities are notoriously vague on this matter, in promotional literature and catalogue. But since liberal education is the more prestigeful of the two purposes, more substantial in attracting the good coin of the academic marketplace, all colleges profess to provide it. Purpose is here best revealed by the array of courses and curricula and by differences in the strength of departments and programs as reflected in faculty size and student enrollment.

The distribution of faculty among disciplines at the time of this study is shown in Table 95, to indicate the degree of liberal arts concentration. The eight colleges fell into two groups: those that offered relatively pure liberal arts—Antioch, Reed, Swarthmore, and St. Olaf, where an eighth or less of the faculty was in the applied fields; and those that offered a mix of the liberal arts and applied subjects—Pacific, Portland, San Francisco State, and Berkeley, where a fourth or more of the faculty was in applied fields. The public institutions were the most applied, with engineering a particularly large field at the University of California and education a large field at San Francisco State College. Reed was almost pure liberal arts, with no work in business or engineering, and only a minor commitment in education, and Swarthmore also was straight liberal arts except for its traditional involvement in the field of engineering; in contrast, the Berkeley faculty was scattered over a host of professional fields, some of which train for work at the level of the bachelor's degree.

Table 95

DISTRIBUTION OF FACULTY AMONG FIELDS OF STUDY, IN PERCENTAGES

	Antioch (N=78)	*Reed (N=74)*	*Swarth-more (N=90)*	*S.F. State (N=480)*	*U.C. (N=286)*	*U.O.P. (N=120)*	*St. Olaf (N=114)*	*U.P. (N=107)*
Humanities (including religion)	18	28	31	17	14	23	30	29
Natural Sciences	22	35	28	9	14	15	17	12
Social Sciences	17	24	18	20	16	16	15	16
"Traditional" Liberal Arts	57	87	77	46	44	54	62	57
Fine Arts	10	5	3	11	4	12	14	5
Applied Fields	13	3	11	34	40	24	11	29
Education	6	3	0	18	6	12	4	8
Engineering	3	0	10	1	12	4	0	6
Business	4	0	1	7	4	2	0	5
All other	0	0	0	8	18	6	8	10
Physical Education	5	5	7	5	2	7	9	4
Others	16	0	2	4	9	3	4	6

Source: Faculty Questionnaire. Population addressed by the questionnaire was a one-fourth sample of the faculty at Berkeley and the entire faculty at the other seven colleges. Spring, 1963. The response rate for the questionnaire was: Berkeley, 67%; San Francisco State College, 83%; University of the Pacific, 85%; University of Portland, 87%; Reed, 87%; Antioch, 88%; St. Olaf, 92%; Swarthmore, 93%.

The figures on faculty distribution in the more applied colleges understated their degree of vocationalism, since in a college committed to much work in education or engineering or other such fields, many faculty members in different departments find themselves servicing the students and programs of these departments.

The relative emphases on "education" and "training" have many indirect effects on the student climate. For example, students who come to a college to enroll in applied fields are generally more conservative in political temper and less interested in cultural affairs and ideas as such than the students who enroll in the liberal arts (see Chapter V). As a result, the mix of student values on campuses with sizeable enrollments in the applied fields are more conservative, or less sophisticated. Or the campuses have several major components, broken along the lines of departments and majors, with fundamentally opposite value climates. Differences in purpose between liberal and vocational education influence the student environment primarily through effects on recruitment and program.

The eight colleges may be grouped on these dimensions of purpose as follows: Antioch, Reed, and Swarthmore were committed to undergraduates, were not basically involved in religious training, were organized mainly around the traditional liberal arts, and were thereby committed to general education. Antioch was somewhat different from the other two in having majors in business, engineering, and education; in its philosophic commitment to the work-study program as a means of basic education; and in having a stronger sympathy, at least in practice, for the performing arts. Of the three, Antioch was the most pluralistic in purpose, which was a source of its unusual organizational complexity.

St. Olaf was oriented to undergraduates, religious in intent, and organized mainly around the traditional liberal arts. It was involved about as much as Antioch in applied fields, and was importantly represented in the performing arts by its strong major in music—in this case a church-related art. The University of the Pacific maintained a strong emphasis on undergraduate education, was modestly concerned about the religiosity of its students, and offered a generous amount of work in applied fields mixed in with the liberal arts. Portland was an undergraduate institution, for the most part, firmly wedded to religion; like Pacific, it mixed the applied fields with the liberal arts—in about the proportions one expects in a municipal university of the private variety.

San Francisco State was undergraduate-committed, although it was evolving toward a dilution of this emphasis; it was secular, and it heavily mixed direct job training with the majors that have little direct vocational value. The University of California at Berkeley, non-religious, was by a large measure the least concerned about undergraduates of the eight institutions, and was most heavily committed both to applied fields and the liberal arts.

ORGANIZATION OF THE COLLEGES

Administrative Structure

Colleges and universities give much attention to the grouping of faculty in departments, divisions, sub-colleges or schools, and senates, and to the deployment of administrative personnel in such offices as those of registrar, admissions, public relations, purchasing, buildings, student personnel services, and academic dean. College presidents are not alone in being interested in organization; members of the faculty are also sensitive to structure, since internal groupings often affect individual and collective prerogatives, as well as personal and professional relations with faculty members and administrators. Thus, administrative arrangements are ordinarily considered, in one way or another, as critical to the educational process.

When administrative structure was studied in the light of the impact of the college on undergraduate students, one fundamental point emerged: Formal organization is not critical in small colleges, but it is of great consequence in large colleges and universities.

Why was formal structure of so little importance in the small colleges? Not because it was absent; all were large enough to require a set of administrative offices that stretched down one or two corridors of the main building, and they possessed a formal faculty structure. All had one or more layers of committees, the better to serve both faculty and student authority, as well as administrative and trustee authority. The small colleges were indeed formal organizations. But the internal formal structure had relatively little weight because it determined only a minor part of the significant interactions between the members of the institutions.

Should a small college have departments? Many educational reformers and managerial consultants warn about the rigidity and fragmentation that results from departments. They consider departments at best a necessary evil in the large places, and a serious and unnecessary obstruction in the small college. Faculty members, on the other hand, usually seek to group themselves around disciplines, and as time goes by the resulting clusters commonly emerge as departments. The results of this study suggest that it makes relatively little difference whether or not a small college allows departmental groupings in the faculty. Swarthmore and Reed illustrate the point very well.

Swarthmore had long had departments which were strong units of organization. The position of department chairman was important, for the chairman usually ran the department and represented it in consultation with the president and other central officers in such key matters as personnel and budget. The chairman often had had long tenure, and he may have chosen, as befit his temper, to consult all hands in the department, the senior members alone, or only himself. However the Swarthmore chairmanship was managed, the department was the primary administrative unit, much as in the university. Reed, in contrast, had kept departments in a subsidiary role. The disciplinary clusters had had little formal recognition; only two or three disciplines had a strong sense of department, sometimes as the result of chairmanships offered professors to help attract them to campus. At Reed, divisions encompassing four or five disciplines, such as the Division of History and Social Science, were the stronger units. But stronger yet were bodies of the whole, particularly the elected faculty council that for decades sat with the president in the making of central decisions, from those about budget and building to the hiring, promoting, and firing of professors.

This difference in departmental organization, and other structural differences between the two colleges, appear to have had little effect on the educational process. The formal patterns did not determine who saw whom, and they did not determine interaction and communication to the point of influencing teaching and learning. These were campuses whose small size and physical layout put men in touch—in the corridors of the several main buildings, on the several pathways that connected the few buildings, in the single dining room that served everyone, in the faculty meeting of 60, in the committee meeting of eight, and at the social occasion when 20 people, comprising one-fifth of the faculty and administration, were on hand to toast a visitor. Similar interactions occurred at the other small campuses, at Antioch and St. Olaf, Pacific and Portland. Time and again informal contact was observed as being the principal tool of administration, providing communication and coordination. The differences in formal arrangements, then, often did not seem crucial.

In the large places, however, the formal, as well as the physical structure of the campus counted a great deal. The number of faculty members and administrators (sometimes 2,000) was too large and the physical dispersion of the campus (sometimes 60 different buildings) was too great for informal contact to coordinate the whole. Who related to whom and what support was given different programs were then heavily conditioned by the formal structure. Departmental organization, for example, in a faculty of 1,000 or more puts men of the same discipline in some contact with one another and essentially out of contact with men of other disciplines, especially those whose field of knowledge does not border theirs. The residential-college form of organization, however, groups a large faculty in such a way that men of the same discipline are scattered through many clusters, while men of different fields come together in the interdisciplinary staff of the house or college. Departmental organization supports the disciplines and their research and graduate training; residential-college organization much more readily supports general education and undergraduate education. In the latter, the formal arrangements operate to facilitate much faculty-faculty contact, faculty-student contact, and the contact of administrators with all other elements of the campus as well as with one another.

For San Francisco State and Berkeley, the formal groupings of faculty and administration seem not to affect teaching and learning heavily. At such large campuses the problems of effective campus influence on the values and character of students are in part problems of insufficient contact, interaction, and simple concern. The formal scheme can work to increase or decrease all three, but the administrative structures that support the creation of new knowledge and the fact of large size seem most likely to work toward ineffective participation for undergraduates and callousness in the interrelationships of administrators, faculty, and students.

The Curriculum

Colleges and universities also give much attention to the organization of the curriculum, since instruction is the basic work of the undergraduate college and remains an important part of the work of the university, even though at the university research, consulting, and other non-teaching duties come to the fore. Academics and laymen alike seek to sense the impact of colleges by comparing instructional programs–the subjects taught, the coverage of courses, the quality of teaching. In colleges devoted to the student, there is endless thought given to the improvement of instruction. The faculty member who cares about instruction can be found revising his course offerings and lectures year after year. The logic of all this is that the curriculum matters a great deal. But does it? And in what way?

Several variations in the curricula of colleges are important environmental characteristics. One is the spread of majors and courses, and within the spread, the sectors made influential by reason of heavy student enrolment and faculty staffing. The major differences in curricular spread and emphasis follow from differences in purpose. The earlier discussion of purpose used the curriculum as evidence of actual purpose, particularly to point to differences in emphasis on the liberal arts. There it was seen that Reed was virtually limited to the traditional curricula of the liberal arts, while Berkeley and San Francisco State, though offering strong liberal arts programs, were heavy in the applied disciplines, with engineering, architecture, urban design, chemistry, and business important sectors at Berkeley, and education, engineering, and others at San Francisco State.

The differences in denominational purpose that were discussed had direct reflections in the curriculum: Mandatory, extensive courses in religion and religious philosophy were demanded of all Catholic students at Portland; courses for all in religion and philosophy at St. Olaf; some optional work in religion at Pacific;

and little or no place for religion in the curriculum of the average student at Antioch, Reed, Swarthmore, San Francisco State, and Berkeley.

The curricular structures correlated positively with certain changes in the students but seemed little related to other changes. In the colleges with a religious emphasis in the curricula, most of the students maintained their religious convictions, and in those with limited emphasis on religious curricula, students changed away from religion. The more, the more–the less, the less, but this change in religion was also strongly related to the "type" of students who entered.

A similar relation did not hold for educational values: The colleges which concentrated on the liberal arts increased the commitment of their students to the ideal of general education, but students in the more applied colleges showed even greater change toward this ideal (Chapter VII). These differences suggest that the curriculum may sometimes be overruled or suppressed by other features of the campus and that sometimes it operates in concert with other factors in the way it influences students. Courses and sequences of courses are not typically isolated elements of independent impact. The importance of the curriculum, when it is important, seems to stem from the ways in which it interlocks with and expresses the interests of the faculty, the distribution of influence behind different values in the faculty, the reputation of the institution, and the interests that are thereby developed, through recruitment, in the entering classes of students.

A second difference in the tone of the campuses, closely related to curriculum and instruction, was the difficulty of the work required of students. The difficulty of the program at the six private colleges was largely in line with their general academic standing and the ability of their students: severe at Reed and Swarthmore, slightly less so at Antioch, then a major step down to St. Olaf, and another major step down at Pacific and Portland.* These general characterizations do not, however, take into account some departmental differences. San Francisco State and Berkeley, with their great internal diversity, were notably uneven in the toughness of curricula. Students moved around among many "hard" and "soft" majors, and if the requirements were hard in physics and mathematics, they were considerably less so in some of the social sciences and the humanities, and particularly in some of the applied fields where less abstract reasoning was required.

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*This characterization is consistent with students' responses on questionnaires and in interviews.

The diversity of the large campuses also, in comparison with the best liberal arts colleges, reduced the capturing power of the curriculum even when the student was caught up in mandated sequences of courses or a required distribution of courses. The common experience of students who transferred from Reed to Berkeley or San Francisco State College was that, if they wished, they could hide from the curriculum. Most of the set requirements were not difficult for a bright student since they were taken in the anonymity of the large lecture hall and in competition with students varying markedly in ability; and in the requirements where there was some choice–where one course might be picked out of a designated five or six courses–no one paid much attention if the student arranged a set of courses designed to give him time to read and converse as he pleased. Such an escape from curriculum in certain disciplines, possible on the large campuses, could not be engineered under the fairly close scrutiny of the faculty at Reed. Thus, while the large public campuses were hard in certain majors, they were not so consistently hard as the leading private colleges; their internal complexity permitted the requirements to overlap the hardness or softness of a number of other types of campuses. As a result, the quality of education, in the direct sense of knowledge absorbed, varied greatly within Berkeley and within San Francisco State, from excellent to poor. The quality of these large campuses cannot be predicted as closely as it can for small colleges from general academic standing of the institution.

From a third perspective, the curricula of different colleges varied in capacity to reward different forms of academic effort. Some colleges were relatively singular in this capacity, others mildly to extremely pluralistic. Nearly all colleges mandated some work in general education and then specified a certain amount of work in a major and related fields. But they varied greatly in how and how much they "tracked" students. A curricular track is a set of tasks and rewards, and the nature and number of the tracks on a given campus govern which students are most likely to succeed or fail.

Reed and Swarthmore again provide an instructive comparison. As described in Chapter II, Reed had a single-track curriculum; in effect it was an all-honors college. As freshmen, all students took an identical humanities course that constituted half of the first year's work. All were required to pass a written qualification exam at the end of the junior year. All had to write a thesis and face an oral examination in the senior year. That was the route and there was no escape from it; to graduate from Reed was to have done these things. Consequently this sequence of hurdles and events was very much a part of every student's activities and thinking.

Swarthmore had two tracks, the *honors work*, into which about 40 percent of the juniors went, and the non-honors or *course program*. *Honors* and *course* work were genuine alternatives. *Honors* was more prestigeful, but *course* work was more than passable in status in a student body where so many were so bright, and *course* work had managed to escape the worst aspects of second-class citizenship that observers had often predicted for it. Bright students who did not wish the seminar form of intense specialization in their last two years of the *honors* route could opt for more general lectures and a greater spread of courses. Some of those who went into *honors* moved or fell away—to *course*. The Swarthmore alternatives accommodated a greater range of personal capacity and inclination than did the Reed all-honors approach. Considering that students in the *course* sequence also escaped the worst of the academic competition, since most of the best students chose *honors*, the dual-track system clearly added to Swarthmore's capacity to retain its students. Reed's single track, part of its across-the-board rigor, contributed to withdrawal.

Then, finally, after observing these eight colleges in action and comparing their curricula, the many different specific ways that were available to group specific subjects in courses and programs did not turn out to be directly critical. There simply is no one best way to divide and integrate the subject-matter of a field or related fields in the teaching process. The reform of a college is not achieved by minor curricular regrouping, the rearranging of courses and programs that faculties generally engage in when they think of improving teaching and learning on the campus. Courses must be revised to keep them up-to-date and technically competent;

but beyond this the important effects of the curriculum are indirect and global, working through the ways that the structure of the curriculum affects faculty-student relations, student-student relations, and the alternatives of reward and passage offered the student.

In sum, the important differences among the colleges in how they grouped instruction were linked closely to other features: institutional purpose, size and complexity, the caliber, motivation and educational intentions of the students—and differences in faculty values and roles.

The Faculty

Other than where the charisma of an unusual president dominates a campus, especially for students, the daily acts of the faculty are the concrete presentation of what the college wants to do. The faculty members, holding the credentials of the scholar and the expert, are also possible models of what academics hold dear. The faculty is a critical element, in its capacity to shape students or in its inability to do so. The discussion below considers certain perspectives and values of the faculties, a few features of their personal backgrounds, and some aspects of their involvement with students.

Educational Values. When asked what they considered the most important purpose of undergraduate education, the faculties of all the eight colleges heavily favored general education over vocational training and such other purposes as developing moral capacities and ethical values (Table 96). Three-quarters or more of the faculty at each college answered *general education;* 4 to 14 percent chose *vocational training;* 3 to 12 percent claimed the development of moral capacities was their most important business. Faculty probably overstated their commitment to the ideal of liberal education, but there is a widespread understanding among academics that they should believe in the primacy of general education. Thus, in general belief, there was a faculty press toward liberal education. But, of course, faculty members might present quite another day-to-day model to students as they taught their own specialized courses and emphasized their own discipline.

Since seniors favored general education more than did freshmen (Chapter VII), seniors were closer to the attitudes of the faculty than freshmen (Table 96). The flow of student opinion toward the position of the faculty is shown college by college in Table 96. The movement of the students toward the faculty position was considerable on the campuses where the new students were most divergent from an ideal held in common by the faculties. Here, apparently, faculty values heavily outweighed the structure of the curriculum. Men in applied fields as well as the liberal disciplines asserted the primacy of liberal education in the undergraduate years.

Table 96

EDUCATIONAL VALUES OF FACULTY, WITH STUDENT COMPARISON, IN PERCENTAGES

Purpose of College	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Faculty response								
Provide general education	77	85	82	74	79	75	74	75
Provide vocational training	5	4	7	10	10	11	10	14
Develop moral capacities	10	10	3	8	4	8	11	8
Student response: in favor of general education								
As freshmen	50	71	53	22	34	26	30	16
As seniors	68	75	80	60	65	48	59	40
Student-Faculty difference (in proportions favoring general education)								
Freshmen-faculty	27	14	29	52	45	49	44	59
Seniors-faculty	9	10	2	14	14	27	15	35

Source: Faculty and Student Questionnaires.

Religious Values. The denominational affiliations and the intensity of the faculties' religious conviction correlated strongly with the religious nature of the institutions (Table 97). The faculties of the three church-connected colleges, to different degrees, were members of the parent church and considered themselves moderately or deeply religious, while at the three non-religious colleges and the two large public institutions a significant share of the faculty, usually about a half, professed no faith or did not consider themselves religious.

Table 97

RELIGION OF FACULTY, IN PERCENTAGES

Present religion	*Antioch*	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Catholic	5	7	3	6	4	2	1	68
Jewish	9	5	6	5	7	2	0	1
Protestant	30	31	47	43	33	78	96	21
None	53	51	38	40	50	15	3	5
Consider one's self moderately or deeply religious	49	34	58	55	45	85	96	86

Source: Faculty Questionnaire.

At St. Olaf, almost every faculty member was Protestant, seven out of ten were Lutheran, and nearly all considered themselves deeply religious (36 percent) or moderately religious (60 percent). At Portland, two out of three were Catholic and again nearly all were self-defined as deeply (33 percent) or moderately (53 percent) religious; only a handful were indifferent or opposed to religion. At Pacific, about eight out of ten were Protestant and three of these were Methodist; again the vast majority considered themselves religious–26 percent deeply, and 59 percent moderately. The religious perspectives of these faculties, particularly at St. Olaf and Portland, were instrumentalities of the religious purposes of the institution. At these two colleges, the faculties were spokesmen for a specific church; at the University of the Pacific, for Protestantism in general.

At the other five institutions, where four to five out of every ten faculty members did not belong to a faith, a majority considered themselves largely indifferent or basically opposed to religion. Of the three small private colleges, the faculty at Swarthmore was the most religious, the faculty at Reed the least. These differences were in line with the origins and historic commitments of the colleges, Swarthmore to Quakerism and Reed to a stern nondenominationalism. At all three of these colleges, a small but significant share of the faculty (10 to 15 percent) were Quaker or Unitarian: Quakers alone numbered about one in seven (14 percent) at Swarthmore; Reed had a few more Unitarians (10 percent) than Quakers (4 percent); and Antioch had about equal numbers of these two liberal denominations, totaling 10 percent. Men of these denominations were usually more influential in campus matters than their numbers would indicate: Some of the Quakers in the Swarthmore faculty held important positions, alongside Quakers in administrative posts; the small Quaker group at Antioch had been active, as suggested in Chapter III, in the religious and political life of the campus.

At the two large public institutions, where half the faculty were essentially non-religious, there was among those who professed a religion a notable underrepresentation of Catholics, which is a common phenomenon in public and non-Catholic private colleges in the United States. The Jewish faith and the major Protestant denominations–Episcopal, Congregational, Presbyterian, and Methodist–were represented in about normal proportions.

The religious commitments of the students were seen in earlier analysis to have weakened considerably between the freshmen and senior years at the colleges where the faculties as well as the student bodies were a mixture of the non-religious and the mildly religious (Antioch, Reed, Swarthmore, San Francisco State, Berkeley). Students moved slightly away from religion at the University of the Pacific, where the religious commitment of the faculty was modest. For the most part students maintained their religious commitments over the undergraduate years at the two institutions, St. Olaf and Portland, where the faculties were quite religious.

Political Values. The faculties also varied markedly in their political views. Some of the campuses were definitely more conservative politically than others, and the faculties exhibited some critical differences in their feelings about faculty and student rights (Table 98).

Table 98

POLITICAL VALUES OF FACULTY, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Party identification								
Republican	9	9	17	23	19	47	44	31
Democrat	42	49	46	51	57	28	34	46
Independent or Socialist	45	42	33	23	20	22	21	20
Legislative committees should not investigate the political beliefs of university faculty members. Strongly agree.	83	85	70	63	67	53	49	31
A former member of the Communist Party who refuses to reveal the names of party members he had known should not be allowed to teach in a college or university. Strongly disagree.	77	80	63	57	61	33	33	20
Present members of the Communist Party should not be allowed to teach in a college or university. Strongly or moderately disagree.	64	63	49	45	50	21	30	10
Principles that should be accepted and assured by educational institutions under the principle of academic freedom:								
Freedom to publish the findings of all investigations. Agree.	92	92	88	86	91	83	85	72
Freedom to present any and all ideas in regular classes. Agree.	85	82	72	76	76	65	68	45
Freedom to participate in any public controversy. Agree.	89	84	70	73	73	68	70	48
Freedom for students' publications, subject only to the censorship exercised by the U.S. postal authorities. Agree.	73	64	38	47	59	35	36	22

Source: Faculty Questionnaire.

First, in the identification of faculty members with political parties and in their voting behavior, the three church-related colleges were relatively conservative: St. Olaf and Pacific were more Republican than Democrat and although Portland had more registered Democrats than Republicans, the faculty has shifted in presidential elections. The other five institutions were modestly to extremely liberal. The faculties at Berkeley and San Francisco State were much more Democrat than Republican; and in the Antioch, Reed, and Swarthmore faculties, only about 10 to 15 percent were Republicans, with a very large proportion declaring themselves as "Independent."

Second, on issues of civil liberties, the faculties ranged widely in sentiment. On issues such as the right of legislative committees to investigate the political beliefs of faculty members, and the acceptance of former and present members of the Communist Party on faculties, the faculties of the three secular private colleges were militantly liberal, of the two large public institutions moderately liberal, and of the three religious colleges conservative, particularly at the University of Portland. The percentage of the faculty who felt that legislative committees should keep their hands off faculty members varied from 85 percent at Reed to 31 percent at the nearby University of Portland. The opinion that present members of the Communist Party should not be allowed to teach was held by nine out of ten at Portland, but only by one out of three at Reed (Table 98).

Third, on the rights of faculty members and students to write and talk as they wished, both on and off campus, the faculties came close to agreement on most issues, apparently reflecting a common attachment to national norms of academic freedom. Some significant differences remained, however. On the rights of faculty to publish research findings, to discuss controversial ideas in class, and to participate in public controversies, there was overwhelming liberality and permissiveness at the three secular colleges and the two large public institutions, with St. Olaf and the University of the Pacific faculties not far behind (Table 98). The faculty at the Catholic institution, the University of Portland, was not part of this overwhelming agreement, however, for there half of the faculty had doubts about the discussion of controversial issues and the right to participate in public controversies.

Considerably more disagreement appeared among the faculties when the questioning turned to students' rights, specifically to the matter of freedom for student publications–the campus newspaper, the yearbook, the humor magazine. The militantly liberal position holds that the students are free to write as they please, subject only to the censorship provisions of the U.S. postal authorities. Here the faculty at Antioch remained highly liberal, with about 75 percent so agreeing; then, down a gradient, Reed (64 percent), Berkeley (59 percent), and San Francisco State (47 percent); then a cluster of Swarthmore, St. Olaf, and the University of the Pacific, with approximately two-thirds of faculty against this form of unadministered student freedom; and then the University of Portland, where opinion was most heavily (four out of five) against such permissiveness. Faculty opinion, as part of the climate of student development, was highlighted here in the great difference between the Antioch faculty and Portland faculty; in the disposition of the Swarthmore faculty to exercise some control over students' publications, in contrast to the Antioch and Reed faculties; and in the finding that although college faculties in general agreed with the principles of academic freedom for faculty, all faculties to some degree, and the politically conservative colleges in particular, found student freedom of this sort inappropriate or dangerous.

Personal Background. The faculties of all the colleges came predominantly from the homes of professional men and business-managerial personnel (Table 99). The Swarthmore faculty was the most concentrated in this respect, with over four out of five from the upper middle or upper class (including 13 percent from families of educators), and less than one out of five from families in which the father was a lower white-collar worker, a blue-collar man, or a farmer. The families of the Swarthmore faculty were also the best educated, with about half of the fathers having had some college and four out of five having completed high school. The greatest contrast to Swarthmore was the University of Portland, where nearly half of the faculty came from families where the father had not completed a secondary education.

There were few sons and daughters of farmers on these faculties: almost none (less than 4 percent) at the three secular private colleges and Berkeley; very small proportions (6 to 8 percent) at the two "municipal college" institutions, San

Francisco State College and the University of Portland; and a sizeable minority (15 to 20 percent) only at St. Olaf and the University of the Pacific, the two more pastoral colleges of the eight.

The faculties were thus largely from urban upper middle class backgrounds. The college of highest social status among the eight—Swarthmore—had the faculty of highest social class background; the other colleges showed a mixed picture of college status and personal background. With respect to social background, the faculty was a good deal more homogeneous than the students.

Table 99

SOCIAL BACKGROUND OF FACULTY, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Father's occupation								
High white collar	73	67	84	65	76	66	62	54
Professional and semi-professional	24	24	32	21	31	24	18	20
Educator	4	5	13	8	9	13	11	3
Managerial	45	38	39	36	37	29	33	32
Low white collar	9	7	4	6	5	6	6	8
Blue collar	18	22	9	19	11	13	9	22
Farmer	0	4	2	8	4	15	18	6
Father's education								
Less than HS graduation	39	33	17	42	33	39	33	50
Completed HS	15	27	9	17	13	14	10	8
Some college education	42	41	63	38	51	44	43	25
Family's religion								
Catholic	13	12	4	14	8	5	1	63
Jewish	18	7	9	10	13	2	0	1
Protestant	56	65	70	62	64	88	98	27
None	8	12	14	12	12	5	0	5

Source: Faculty Questionnaire.

The faculties of all the colleges were largely "raised in a religion" (Table 99). In the three secular colleges and the two public institutions, many were raised as Catholics or Jews; for example, one out of five at the University of California and one out of four at San Francisco State. Only a small minority, from 8 to 14 percent, were raised in non-religious homes.

Considering the information reported earlier on the present faith and religiosity of the faculties (Table 97), it is evident that the faculties at most of the colleges had moved substantially away from religion since their childhood. Comparing the religion of childhood with present religion, many faculty at Antioch, for example, had fallen away in all the major faiths: Catholic, from 13 to 5 percent; Jewish, from 18 to 9 percent; Protestant, from 56 to 30 percent. "No religion" was therefore the great gainer, from less than 10 percent in the homes of parents to over half in the present homes of the faculty members. The one gainer among the religions, at Antioch, was Quakerism-Unitarianism, from zero among parents to 12 percent of the faculty sons. A similar pattern of change in religious commitment between childhood and adulthood was found at Reed, Swarthmore, the University of California, and San Francisco State, and, to a lesser degree, at the University of the Pacific. At St. Olaf and the University of Portland, no falling away was evident, at least at the level of broad identification with a faith: The faculty members as a group were about as Protestant (St. Olaf) or as Catholic (Portland) as were their parents as a group. Thus, the direction and general magnitude of change of the faculty paralleled the change or non-change in religiosity of the students (reviewed earlier college by college).

Educational Background. Where the faculty members took their undergraduate education and where they obtained the higher degrees so crucial for qualification and placement in an academic career are also illuminating factors related to background (Table 100). The faculties of the private colleges, it turns out, had gone mainly to private colleges as undergraduates (from about a half at Antioch to three-fourths at Swarthmore), while about two-thirds of the faculties at the University of California and San Francisco State College had attended public colleges. Private colleges can be divided into top private (all of which are secular or Protestant), Catholic, and all other private. Many in the faculty of the three leading private colleges in the study had their undergraduate days in leading private institutions, with Swarthmore having four out of ten from elite schools. The faculty members at Portland had been educated in Catholic colleges (among the private colleges), and a large percentage of the faculties at St. Olaf and Pacific had attended church-related colleges of other than top academic standing.

Table 100

EDUCATIONAL BACKGROUND OF FACULTY, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Bachelor's degree								
Private college or university	54	58	77	29	34	60	73	63
Top private	29	28	41	5	8	6	3	2
Catholic	4	5	1	1	2	0	1	51
Other private	21	24	34	24	23	53	69	9
Public college or university	40	38	19	65	61	39	25	34
Highest degree								
Private college or university	41	54	71	45	39	55	31	51
Ivy League	10	15	32	3	11	6	3	0
Catholic	0	4	0	1	0	1	0	33
Other private	31	35	39	41	28	48	28	18
Public university	49	45	27	48	53	41	58	35
(No higher degree)	10	0	1	6	7	3	0	13
Inbreeding: was a student at this college	9	9	13	11	44	19	39	17
As undergraduate (only)	9	9	12	5	10	11	39	11
As graduate student (only)	0	0	0	3	16	3	0	3
As both undergraduate and graduate student	0	0	1	3	18	5	0	3

Source: Faculty Questionnaire.

The graduate education of the faculties was somewhat similar to the undergraduate patterns, but more mixed, so that the public-private parallels were less distinct and there was a convergence toward the mean. Private college faculties who had private-college undergraduate education had their graduate training to a lesser degree in private universities. The faculties at Berkeley and San Francisco State, however, had moved in the opposite direction; for example, only about 30 percent of the San Francisco State faculty had been to a private college as undergraduates, but about 45 percent had received their highest degree from a private university—a story in which nearby Stanford University played an important part. Another point of note in the graduate training of faculties was the contribution of Harvard, Yale, and Princeton. These three top Ivy Leaguers contributed about a third of the Swarthmore faculty, and at least one out of ten of the faculty at Antioch, Reed, and Berkeley, but none to the University of Portland.

In hiring its own students as faculty, to what extent had the colleges engaged in inbreeding? St. Olaf received back, after graduate school (usually at Minnesota or Wisconsin) a number of its sons: About four out of ten in the faculty had been St. Olaf undergraduates. This sizeable component reflected the high standing of St. Olaf among Lutherans, as well as the usual loyalty of the undergraduates of small colleges. This background presumably strengthened the influence of the faculty on the normative character of the campus. The University of California was the only other institution among the eight where students became faculty to a significant degree: 10 percent of the faculty had been undergraduates there, 16 percent had been graduate students, and 18 percent had been both.

In sum: The faculties varied moderately in social-class origin, with Swarthmore having drawn the most completely from the upper middle class. They differed more widely in religious rearing, with the religious colleges having drawn heavily from their own faith or denomination. During their own development, faculty members had fallen away from the religion of childhood to secularism or to a liberal Protestant denomination, except at the two most churchly colleges. To a significant extent, the private college faculties had done their undergraduate work in private colleges, and the public college faculties in public colleges, but this relationship did not hold for graduate school. The faculties of the top-status private colleges contained significant numbers who had been educated in top-status private colleges, Swarthmore to the point of being quasi-Ivy. Thus, the colleges did not particularly recruit their faculties by social class; but they did, consciously and unconsciously, tend to "draw" by type and degree of religious commitment and also from colleges of similar status or kind.

Roles. The activities of faculty members varied considerably from the one major university campus in the study to the other seven colleges, since the university setting means graduate students and research, expert advice to government and industry, and other activities besides teaching the undergraduate. Many university professors were not in full-time teaching: In Berkeley, at least a third of the faculty who were in the classroom were not on full-time teaching assignment (Table 101). This figure underestimates the deflection of time to other activities, since regular members of the faculty who were not teaching that semester were not samples. This university division of the academic role contrasts with the situation in five of the colleges (Reed, Swarthmore, St. Olaf, Pacific, and San Francisco State), where nine out of ten faculty members were full-time in the classroom. The number on full-time teaching was reduced at Antioch to about 80 percent, because counselor-teachers were engaged in supervising off-campus activities, and to about the same level at Portland, because of the marginal members of the faculty who taught only part-time.

Table 101

ROLE OF FACULTY: FULL- OR PART-TIME TEACHING, IN PERCENTAGES

	Antioch	*Reed*	*Swarth-more*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Full-time	83	90	93	90	64	89	96	79
Part-time or not teaching at all	17	10	7	10	36	11	4	21

Source: Faculty Questionnaire.

Was the faculty as a whole greatly interested in students and their problems? The larger the college, the less the interest in students, and the faculty of the university campus were by far the least interested. When asked, *What proportion of the faculty members here would you estimate are strongly interested in the academic problems of students?*, 40 percent of the Berkeley faculty estimated that "very few" or "less than half" were so interested (this a short time before the student rebellion on the campus). The percentage at Berkeley was twice that at San Francisco State, four times that at Pacific and Portland, and about ten times that at Antioch, Reed, Swarthmore, and St. Olaf (Table 102).

Table 102

FACULTY ESTIMATE OF INTEREST IN STUDENTS, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St Olaf*	*U.P.*
What proportion of the faculty members here would you estimate are strongly interested in the academic problems of students?								
Almost all	56	47	60	18	9	23	38	26
Over half or about half	40	50	35	56	45	60	55	57
Less than half or very few	4	3	2	18	40	10	5	12
What proportion of the faculty members here are strongly interested in the students' lives outside the classroom?								
Almost all	4	1	2	2	2	5	8	4
Over half or about half	60	30	56	21	11	35	61	45
Less than half or very few	36	66	36	68	83	52	30	45

Source: Faculty Questionnaire.

What proportion of the faculty are strongly interested in the students' lives outside the classroom? Here the focus moved from the strictly academic reference of the previous question to a more embracing interest in the experiences that educate students outside the regular program of lecture, discussion, and examination. The overwhelming majority of faculty at the two large public campuses reported that very few or less than half of their colleagues were so interested. Four out of five held this impression in the Berkeley faculty (Table 102). In contrast, only about one-third of the faculty at Antioch, Swarthmore, and St. Olaf reported a low degree of interest on the part of most of their colleagues.

The interest of faculty members at Reed in the life of the student outside the classroom is of special note, since the amount of concern broke sharply from that of the other small colleges. *Two out of three faculty members at Reed estimated that very few or less than half of the faculty were strongly interested in the students' lives outside the classroom, nearly twice the proportion that made such an estimate at Antioch and Swarthmore.* This response indicates that faculties of small colleges are not all programmed to automatically exhibit great concern for everything the undergraduate does. The Reed faculty spoke to the contrary, offering a collective opinion similar to institutions many times its size.

Reed sentiments on this point reflect a radical dichotomy between interest in academic problems and concern over "non-academic" problems. The faculty's devotion to the classroom is part of a tradition of focusing on books and paying no heed to social life; its relative lack of concern with what the students did with their lives outside the classroom was consistent with the expectations and practices of the students, who had a relatively free life both on-campus and off-campus in their sleeping and eating arrangements and social encounters. The permissiveness of the faculty on this matter was a critical part of student freedom at the college, a necessary element, in a small college, for a nonconformist ethos in the student body.

To gain some indication of the involvement of the faculties in research and scholarly writing, faculty members were asked about publication—whether they had written books and articles, which is fairly objective information, and whether they were "now writing a book," which admits good intention and fantasy as well as genuine labor. The scholarly productivity of the Berkeley faculty was attested to by the report that (Table 103) four out of ten professors had written one or more books and three out of four had written three or more professional articles, proportions that were double and triple that in most of the smaller colleges. But not in all of the latter; notable among the private colleges was the strong publication record of the faculty at Swarthmore. In writing books, they performed similarly to a university faculty: 36 percent at Swarthmore and 40 percent at Berkeley had written *one* or more books; about 10 percent of the faculty, as at Berkeley, had written *four* or more volumes (compared to none at Reed). The Swarthmore faculty was committed, on a campus with appropriate resources, to a productive scholarship that made the college a scholarly locale interchangeable in basic respects with the universities, especially the leading private universities. The teaching commitment of the Reed faculty, in contrast, had until recently contained more than a faint hostility to publication as an activity that detracts from teaching and pulls a college into the supposed rat race of the university style. This hostility was eroding during the years this study was underway; assuming no more fantasy on this matter at Reed than at the other colleges, the share of the faculty "now writing a book" (43 percent) indicates substantial movement toward a mix of faculty activities that combined scholarly publication with undergraduate teaching. This posture is one of the most important ways by which small private colleges adapted to the competition for faculty members, especially in the natural sciences, and tried to hold their own in a period that favored the giant university.

Table 103

PUBLICATION RECORD OF FACULTY, IN PERCENTAGES

	Antioch	*Reed*	*Swarthmore*	*S.F. State*	*U.C.*	*U.O.P.*	*St. Olaf*	*U.P.*
Written one or more books	20	19	36	25	40	15	16	16
Now writing a book	38	43	51	48	52	29	25	23
Written three or more professional articles	42	34	54	41	74	38	28	24

Source: Faculty Questionnaire.

CONCLUSION

The students changed for the most part in the direction that could be predicted from information about institutional purpose, curriculum, and the values of the faculty, especially where these elements were seen together and not treated as isolated components. Faculty values are probably the best single predictor among these aspects of organization, and are likely to predominate when inconsistent with some other aspect, that is, when a faculty consensus on the primacy of liberal education occurs in a college laden with vocational curricula.

The volume of value change in the student bodies was shown in Chapters VI and VII to have two patterns among the eight colleges: the less, the more; the more, the more. On *educational* and *occupational* values, the pattern was the less the more. Students in the five colleges in which the freshmen were relatively low usually showed more change than those in the three high colleges. These values are both career-relevant and they are part of a general consensus among colleges, especially among faculty members: Work for intrinsic rewards; seek a broad undergraduate education; go to graduate or professional school for advanced training. Thus, the specific milieu of each campus provided a setting in which students lagging in these values were pressed to approach the academic consensus, to catch up somewhat with those who were members of the consensus as freshmen. "The less, the more" pattern operated, in short, for the values of academia. In attitudes central to career and in matters in which the faculty were recognized experts, the students evidently accepted the moral authority of the faculty and institution over their own initial disposition.

On religious, political, and general cultural values, however, the pattern was the more, the more; the three relatively high colleges (freshman class) showed even more change than the five lower colleges. These values are extrinsic to career, they relate to general life style, and they do not represent an academic consensus. The faculties differed significantly in their religious and political convictions and, somewhat qualitatively assessed, in their cultural sophistication. Thus, the institutions did not here move in concert and the "lows" did not exhibit a pattern of catching up with the "highs." Religious and political convictions of initially "conservative" students were conserved or somewhat attenuated in modest degree in the more conservative colleges, while the initially "liberal" freshman classes became considerably more liberal in the more liberal colleges.

The magnitude of change at colleges where the freshmen had differing values was thus related to the value consensus that obtained among the colleges: Consensus within the institutions increased consensus among the students between the freshman and senior years, with the freshman classes that were most deviant from regular academic values changing considerably. On the other hand, differences within the institutions at the level of general values maintained or widened the differences among the students. The general norms of academia play a role in changing students' values, but so do the norms specific to sub-types of institutions.

10

The Influence of College

As is evidenced in the research findings reported in the preceding chapters, as well as in the work of others (Feldman & Newcomb, 1969; Newcomb, Koenig, Flacks, & Warwick, 1967; and Trent & Medsker, 1968), the question of impact is exceedingly complicated. So many different types of students, dissimilar in aspirations, values, and attitudes, in so many different kinds of educational settings, are likely to be quite differently affected by the curricular possibilities of a particular institution. There are innumerable sources of potential impact in the various academic and social sectors of a college–the campus milieu, the values of the faculty, the emphases of academic majors, the orientations of student groups. The widely varying student "inputs," or characteristics, are themselves a predominant part of the social-cultural environment and sources of impact. Large campuses tend to be holding companies for subenvironments, often diverse enterprises functioning as segregating influences which in effect preclude the formation of any overall character. As one moves from the leading private colleges, on which much of the research on college students has been conducted, to private colleges of lesser rank and heterogeneous public institutions, he is struck by the great variety of possible relationships that may develop between students and aspects of the colleges.

While recognizing the complexity of student-environment relationships, it is still possible to discern several major forms of influence of specific colleges on students because of the frequency of their occurrence or their social importance. Three major types of impact, discussed below, and highlighted in the work of Feldman and Newcomb (1969, pp.55-58), were the anchoring effect, the accentuation effect, and the conversion effect, the last least often found because it involves transformation in students' characteristics.

THREE MAJOR EFFECTS

The Anchoring Effect

From one point of view, admittedly somewhat limited, a college may be seen as influencing its students only when it changes their thinking or behavior. Some of this effect may be inferred from measurable differences between the freshman and senior years. This change-assessment approach, which stems from an interest in the possible capacity of colleges to affect the character of students and to instill characteristics commonly attributed to the educated man, such as tolerance and reason, has been used in most of the existing research, including that reported here. Much of the research on change has been designed on the generally implicit assumption of many faculty members that college *ought* to change students in the direction of political liberality, greater cultural sophistication, and less commitment to religious dogma and beliefs. Changes of this nature, however, may occur less as the effect of a whole campus than of its subenvironments.

To illustrate, consider the traditional influence of sororities on a predominantly "liberal" campus. Suppose that the institution, in its admissions practice and instructional philosophy, tends to respect and encourage the characteristics of initially liberal students, while also attempting to convert to liberal values some of the originally conservative ones. But women from conservative families, entering college with conservative values, would tend to seek out conservatively oriented subenvironments, thereby protecting themselves against any tendencies of the campus to change them. On many campuses sororities serve to maintain the existing values and attitudes of the women and their families, values and attitudes that otherwise might have been weakened or, perhaps, significantly modified in the liberal direction.

The retention of conservative orientations, through subenvironmental insulation against the liberal forces of a larger environment, may be seen as an important, and often desired, effect.

Therefore, it is insufficient to identify influence and impact only with change. However, in the assessment of attitudes and orientations, the results for the women being discussed may appear as if nothing has happened because their scores on certain scales did not change over their four years in college. But to have maintained and possibly strengthened their initial attitudes must also be seen as the possible result of impact. This is an anchoring effect—when subenvironments and their cultures serve to hold the student to his initial inclinations against the main tides of the campus.

What is most likely is that influences responsible for the general secularization of students while in college stem from all three sources: subunits of a campus, the institution as a whole, and the larger society.

In the results reported earlier (Chapters VI and VII), and in the findings of other investigators, students who were initially secular became more so during their undergraduate years, while many if not most of the students initially religious became less so, some even shifting to a non-religious point of view. The movement toward greater secularization was especially noticeable in the majority of students at Antioch, Swarthmore, the University of California, and San Francisco State College. (There were some sex differences at certain institutions, and in some instances change in the degree of religious liberalism was related to initial level.)

On the other hand, the experience in some colleges did not result in shifts in religious beliefs and practices. The mission of some church-related institutions is first of all to conserve and strengthen the religious commitments of their students; it was not an objective of the University of Portland, for example, to make its students into secular liberals. Rather, a major goal was to maintain and strengthen the Catholic commitment of its entering Catholic students, and in this effort the institution's program was successful. It effectively combatted the secularizing effects of the general society, as well as the secularizing influences and trends evidenced in the other colleges in the study. The fact that the Portland students as seniors were as religiously oriented as freshmen leads to an inference about an important source of impact: the anchoring effect of a total institution in an increasingly secularized society. In the other college with a strong denominational affiliation, St. Olaf, the program was apparently effective in turning somewhat fundamentalistic Lutherans into enlightened Lutherans (although this was not a deliberate or articulated goal). Its students retained their religious values while increasing in autonomy and acquiring somewhat greater cultural sophistication. This pattern could also be observed at the University of the Pacific, the third of the church-related colleges, but in more attenuated form in accordance with the less intensive religious commitment of its students as freshmen and its large proportion of non-Methodist students.

Colleges with strong religious or denominational commitments may be criticized by secular academics for emphasizing some goals that are inappropriate to higher education, especially when the religious interest overrides dominant academic values. Nevertheless, the basic point remains: The maintenance of values initially declared or observed is a form of impact congruent with the dominant intentions of many colleges and universities and is in line with the traditional ideals of much of denominational higher education. To recognize this point is to bring the interpretation of research results into line with the pluralism of intent found in American higher education. There are conservative as well as liberal assumptions underlying the purposes of college and the values of college experience. A campus may be seen as dangerously radical and secular by one person, while for another it could represent the ideal version of a college.

The anchoring effect is a frequent if somewhat undramatic form of protective influence. Certain subenvironments and certain colleges have this form of stabilization and maintenance as their chief effect, which occurs in many settings other than those discussed here, namely, in religious colleges and in sororities. Wherever students find one another on the basis of similar initial attitudes and values, develop an enfolding shelter of relationships, and thereby hold out against the dominant values of certain strong subcultures or pervasive encompassing environments, the maintenance of values becomes a major accomplishment. One obvious place to look for such effects in future research on value or attitude changes (or the lack thereof), especially on large campuses, would be in the nonconforming subcultures which, when effective, isolate their members from the academic and intellectual orientations of faculty and most other students.

The Accentuation Effect

A frequent apparent effect of college, noted by Feldman and Newcomb (1969), is the accentuation of certain characteristics that students bring to college at entry, revealed when measurements of personality orientations and attitudes taken at the freshman and senior years show an increase in an initially assessed characteristic or disposition.

Accentuation is the principal effect observed in varying proportions of students at Antioch, Reed, and Swarthmore, where at entrance the large majority of students were in the highest categories of intellectual interests. Among these motivated and ready learners, the scores of many tended to rise over the four years on several of the characteristics assessing intellectual disposition (OPI scales), while in the case of other students, the initially high scores remained approximately the same. The latter result may also be interpreted as accentuation, since the high scores were maintained and not lowered by the regression effect. (Regression is a phenomenon generally observed in the readministration of objective tests.)

The analyses in the preceding chapters of changes in students over the four years indicated that the colleges whose students changed significantly in higher proportions were those whose freshmen were highly endowed with sophisticated perspectives, liberal values, and intellectual concerns. Actually, in the three elite colleges and, with one exception in the other institutions as well, the largest proportions of students who changed to the highest categories (1,2,3) were initially in the middle categories (4,5) of the intellectual disposition dimension. This may be interpreted as a strong manifestation of the accentuation effect, but hardly great enough to be characterized as conversion. That so many students moved upward in the index of intellectual disposition indicates that they had at entrance a potentiality for, or disposition toward change, development, or growth. This potentiality was also evidenced by the fact that many students who initially were in the middle intellectual categories (4,5) had relatively high initial scores on scales assessing autonomy, independence, and developmental status.

It was shown in Chapter VIII that persons scoring initially high on the scale assessing interest in ideas and thinking tended to move toward academic, scholarly, or scientific activities and pursuits. By their initial composition, the student bodies with many entrants who were high on this scale were already tilted in a direction consistent with dominant faculty values. In a sense, the students surrounded themselves with a social-psychological complement of intellectual inducements. The potentiality for positive change was in part a function of concentration of numbers, since the students attracted to a place constitute an important aspect of the environment. The concentration of the "good" or "positive" input was a result of attraction and recruitment, discussed later in this chapter as a significant factor in determining college environment. The point here is that a college with a liberal and sophisticated reputation, with an attraction for certain students, has the cards stacked in its favor in strengthening intellectual orientations and liberal values.

The Conversion Effect

The most dramatic effect of college is the virtual transformation of students' initial values, intellectual dispositions, and attitudes, especially when these shifts are in line with institutional objectives. The conversion effect is witnessed in the students who make the big leap in orientation and/or commitment, an alteration in mind and character that academics so often hope to impel. Just as "conversion" is a dramatic change, it is also a rarity; even those who hope for significant impact from college experiences would not expect it to occur easily or frequently. Consequently, it would be more likely to find this effect in individuals than in mean scores for either small or large groups.

Feldman and Newcomb (1969, p.55) define conversion as movement (in either direction) on a continuum from one side of a "neutral" point to the other, from one position to an opposite one. In the data of the present study, it is often difficult or impossible to define a neutral point (as in intellectual disposition), although in objective testing a normative mean may be defined as such. In any event, the difference between accentuation and conversion is chiefly in degree of measured change. Conversion would call for such a high degree of change, usually on a number of measured characteristics, as to suggest a multiple alteration in intellectual disposition, attitudes, and values.

Conversion is most likely to occur in settings where the student is initially out of joint with the more commonly-held values or the predominant points of view. For this person it would be a case of dissonance, possibly resulting in real conflict, where he is likely to be under strong pressure either to shift to the thinking of the majority or to find a shelter where he is less exposed to the prevailing point of view. He may, of course, flee the scene by withdrawing. Those "misplaced" persons who do not withdraw, and do not find or utilize a subenvironment as protection, become likely candidates for conversion. If the predominant environment is distinctive and fairly unified, with stimulation and pressure coming consistently from all sides, the odds on conversion are high.

The conversion effect is likely to occur, then, in settings of high campus potency, in those students who had initially misperceived the institution or otherwise allowed themselves to be attracted to a place where they do not "fit" the culture of the student body. Students in the present study who changed from the lower to the top intellectual disposition categories (IDC) could be considered as exemplifying a conversion effect. Seven percent of the total sample moved from Categories 6-8 to Categories 1-3 during the four years. The largest proportion of such changers (24 percent) was at Swarthmore; the next largest was 8 percent at Antioch and St. Olaf. The percentage of Swarthmore men who moved from Categories 6-8 to 1-3 (27 percent) was not statistically significant, but the percentage of women (21 percent) was significant.

Conversion is least likely to occur in large colleges and universities where there may be large numbers of entering students who tend to be dissonant with dominant and traditional academic values or where there are wide disparaties in values among faculty and students. In these settings students may not be confronted by a unified and embracing contrary point of view. They can "hide" from those who would challenge them in the heterogeneity of the campus, the interstices of a loose and bulky formal structure, or the passive safety and segmentation of student (and perhaps faculty) subcultures.

THE DYNAMICS AND DETERMINANTS OF INFLUENCE AND CHANGE

This discussion of the three forms of influence in college has suggested, by examples and illustrations, some of the conditions of college effectiveness. Amid all the variety within and among the eight colleges, it is impossible to identify closely when, where, and how the major forms of potential influence occurred, or when or even over what period of time they took effect, but there are five points that seem worthy of exploration:

- The interaction of input, image, and environment
- The relationship between impact and withdrawal
- Conditions for campuswide impact
- Conditions for maximum accentuation and conversion
- Importance of campus size and complexity

The Interaction of Input, Image, and Environment

The type and degree of college influence varies with the mix of entering students; when the mass of students fits the institution well, the stage is set either for the accentuation or the anchoring effect, depending on the major purposes and values of the institution. When the fit, or match, between the students and institution is a poor one, the stage is set for possible membership in protective subenvironments or, perhaps for a few students, a conversion to new values and/or intellectual orientations. When students are attracted to and fit colleges whose dominant emphases run counter to the main intellectual trends in academia, the situation favors a campuswide anchoring effect. This was apparent at Portland, where only 1 percent of students who were in IDC levels 6-8 changed to levels 1-3, and where entering students, who were generally low on Religious Liberalism, changed least over the four years on this scale, as well as on several others.

In all cases, the initial *concentration* of students with certain characteristics plays a telling part in the story of influence and effect. The larger and more similar the concentration, the greater the likelihood of a strong effect. A strong or large concentration of liberal, sophisticated, and intellectually oriented freshmen, as already suggested, steps up the probability of much accentuation. A strong concentration of anti-intellectual or vocational values in the entering class is likely to lead to strong maintenance effects by the campus or its subcultures, although a few dramatic conversions may occur to the traditional, intellectually defined values of academics. And a strong concentration of students who were drawn to a place because it could uphold their values against the influence of societal and academic trends will lead to strong anchoring or maintenance effects. Through its shaping of the student environment alone, the initial concentrations enter heavily into the effects of the undergraduate years on the educational purposes and personal values of the student. The students at the University of Portland provide an example of this.

The initial freshman concentrations are the consequence, in patterned ways, of the recruitment, attraction, and selection of students. Institutions, even when they are large, publicly controlled, and service-minded, do not draw randomly from the college-inclined population. Each institution gathers students of certain ranges of ability, certain aspirations and intentions, and certain personality attributes, attitudes, and values. The attraction of high school graduates to a given campus is largely a result of its institutional reach, the combination of reputation and formal criteria of selection that draws certain young people from a large pool of secondary school graduates. The more distinctive the college, the more reputation governs the sorting process. Self-selection in line with public image becomes the critical phenomenon in the determination of the characteristics of entering students. The less distinctive the college, the more formal selection in some instances; in other cases, a more random selection or simply local availability accounts for the qualities of the freshmen.

The reputation of a college can be tailored around the edges by public relations and official manipulation, but over a period of years reputation is basically determined by commonly perceived place in the educational division of labor, by perceived characteristics of the student body, and by perceived performance. In public systems of higher education, certain roles and statuses fall to institutions as junior colleges, state colleges, teachers' colleges, city colleges, and state universities. Private colleges also acquire perceived places, but much more varied ones, in the educational scheme, generally by historically developed relationships with a constituency, so that one private college becomes known as a liberal arts college for Baptists in Texas, another as a private municipal university for average students, and a third as a nationally recognized elite school for girls.

Even more important in the determination of public image, however, is perceived institutional performance (whether accurate or inaccurate), particularly in the way students may be influenced. Within each type of public college, the perception of institutional performance in past years modifies a reputation, resulting in higher or lower academic ratings than other institutions, and offering a collective "definition" of its relative sophistication, liberality, and openness. Among private colleges, the perceived performance is even more critical, since institutional security so often depends upon the capacity of the college to establish a special place for itself in the hearts and minds of those outside the college.

Basic to reputation, then, is the past history of an institution. What the college was like five, 10, and 20 years ago, as well as the performance and record of its graduates, strongly shape the reputation of the present. As a college generates a history, years and decades of judged performance, it entrenches its public reputation. Public reputation becomes an important mechanism in the character of a college when it has the capacity to summon a particular kind of freshman class one year after another, and thereby to shape in turn the student mix, the climate of the campus, and the effects of the college on its students (Clark, 1970).

Thus, there is an ongoing historical-organizational circular linkage which tends to operate importantly in fashioning an image of distinctive colleges and universities: The real and imagined characteristics of such institutions in past years, including their apparent effects on students, tend to be central to its reputation, which is generally important and often decisive in determining attraction and selection. Attraction and selection produce the continuing student input, and the students themselves become a fundamental determinant of the effectiveness of a college. This effectiveness, witnessed in the lives and performances of the graduates, fashions the reputation and attraction in the future.

As colleges develop a history, this sequence tends to harden into a set pattern, both desirable and undesirable, and difficult to alter. Much of the staying and survival power of colleges and universities may depend upon this link of reputation, selective recruitment, and general effectiveness.

The Relationship Between Impact and Withdrawal

Those who drop out of college are usually overlooked in institutional accounts of effectiveness and success. They are left out of the indices of college quality and productivity that are based on the later attainments of the graduates of colleges (e.g., as in the contributive work of Robert Knapp and colleagues [Knapp & Goodrich, 1952; and Knapp & Greenbaum, 1953] on the undergraduate origins of scholars and scientists). They also are ordinarily overlooked in any research design and analysis that follows the student from the point of admission to the time of graduation. Yet the withdrawal rate is high in most colleges, considerably more so than laymen and entering students are generally aware of or expect, and those who leave early should be regarded in some measure as a resultant of what occurs between an institution and its students. A possibly important phenomenon that differentiates colleges is precisely this difference in retention and completion; an institution that graduates 80 percent of its entering students is obviously having a more extended, if not different, effect on students from one that graduates only a third.

When students leave in large numbers, they probably do so for a host of reasons, among them: failed by the faculty or themselves, disillusioned with the campus or romance, caught up in a financial crisis or the search for a more hospitable place. In a society where so many go to college, many students are marginally committed at the point of intake, often because they are weakly motivated academically or because they are in dire straits financially, and not infrequently because their decision was a tenuous one. Such marginal students are quite vulnerable to dropping out or transferring. Those who transfer to what they perceive to be an improved situation may have the requisite motivation and resources, but seem to be a mismatch, usually more with the student body than with the educational program. They have gotten into the "wrong" place, with personal inclinations beyond the zone of tolerance for the particular campus climate, the academic "press," or the major subcultures.

In the increasing phenomenon of intercollege mobility, students may study on two or more campuses in their quest for a good or complete education. The well-known junior college transfer student pattern is one example of the phenomenon, but deliberate movement also now occurs more frequently than before among four-year undergraduate institutions–from state college to state university, or vice versa, and from one private college to another or to a university. Transfer may, in fact, constitute a growing pattern in some private colleges, even leading ones, as in Reed and Antioch. In the former, students have for years transferred after the first or second year to such institutions as the University of Oregon, the University of California at Berkeley, or San Francisco State. In the case of Antioch, which draws students from all corners of the nation, a large proportion transfer to schools closer to their homes, or to schools in metropolitan settings.

One systematic way to conceptualize the withdrawal phenomenon as part of the interaction of college and student is to think of it as *delayed* attraction and selection. After *initial* attraction and selection, the student continues to size up the college while it tries to make up its collective mind about him; the "fit" of student and college is being tested. The student is solidifying or altering some impressions of the college that may have entered into his selection, and the college may still be exploring whether it was right or wrong in its decision to admit him. As the actual withdrawal takes place, perhaps through both self-induced and institutionally-induced action, the admissions process is further defined. Sensible transfer to another campus often appears to work to the advantage of both the student and the original institution.

Thus, withdrawal may be seen as a further shaping and refinement of the initial aggregation of students. In this sense the phenomenon of withdrawal may be assimilated into the recruitment-admissions phase of the sequence of reputation, input, and effectiveness defined above. It is a correction of the initial input concentration, and as such it plays a role in determining the functional mix of student values, the enduring climate of the campus, and the influences and effects of the college on those who wait to take their leave after formal graduation.

The Conditions for Campuswide Impact

The most extensive review of studies of the effect of college on students (Feldman & Newcomb, 1969) has suggested:

> The conditions for campus-wide impacts appear to have been most frequently provided in small, residential, four-year colleges. These conditions probably include relative homogeneity of both faculty and student body together with opportunity for continuing interaction, not exclusively formal, among students and between students and faculty [p.331].

The results of the present study give some substantiation to this quotation in that the findings in part lend support to the importance of both homogeneity and continuing interaction between students and faculty. But attention must be called to the fact that even in the colleges of seemingly greatest institutional influence, with the suggested conditions present, only a proportion of students exhibited significant effects, and also that the stated conditions, especially homogeneity, appeared to characterize colleges in which measurable effect seemed almost negligible. The quotation is obviously a generalization describing conditions which seem to exist in many institutions; in the majority of institutions, however, one finds no extraordinary results in the way of effective learning and measurable behavioral changes (Jacobs, 1957; Knapp & Greenbaum, 1953) Thus, the Feldman and Newcomb conjectures may be considered necessary but not sufficient conditions.

There is a point, however, at which increasing degrees of homogeneity tend to lessen rather than increase a campuswide influence for change. With a high degree of homogeneity, a college will probably have only a moderate accentuation effect and little or no conversion effect; whether it would have a strong anchoring effect probably would depend upon the values it espouses. If its values are in line with the predominant tendencies in the wider academic milieu, students' initial values may be challenged, and the anchoring or maintenance effect will be minimal On the other hand, in a narrow, fundamentalistic college, the campuswide effect will be to anchor initial student characteristics against the tides of change. This effect was observed especially at Portland, and to a somewhat lesser degree at St. Olaf and the University of the Pacific.

Several contingencies can be introduced to illustrate that homogeneity is a relative condition of positive college influence. It seems logical that a college or university would need to have a considerable degree of value consensus in both the faculty and the student body to exert significant influences as a whole (rather than in subunits or subcultures). Also, in some colleges with a strong press toward intellectual values, as in Swarthmore and Antioch, there was considerable variation both in student subcultures and curricular patterns and emphases. At Swarthmore, for example, during the years of the study, the student body could be categorized into three segments representing somewhat different values, and quite varied orientations were represented among different disciplines.

With respect to interaction, college influences in general are likely to be weak and campuswide influences in particular attenuated when students are out of touch with one another and faculty members are out of touch with students, inside and outside the classroom. From a teaching standpoint, the large lecture hall does not provide the confrontation of value and intellect of the seminar. Contact limited only to the classroom does not offer the opportunity for influence, intended or unintended, that is found in the interpersonal contact that spreads into the out-of-classroom hours and into the places where the faculty member is not lord and master. At Berkeley and San Francisco State, students who commute have limited opportunity for interaction either with peers or faculty.

Relative homogeneity and interpersonal relations are obviously found most often in relatively small residential colleges. Residential colleges clearly have the odds stacked in their favor in the way of campuswide influence on the student, simply because the amount, spread, and intensity of social interaction is typically so much greater. The residential campus also keeps most students out of the clutches of outside groups and social settings–the family, the old high school or neighborhood peer group–which reduces the likelihood of influences that would counter those of the campus.

The vitality of the values which are exemplified is a third important condition for campuswide impact. A campus may be relatively homogeneous and provide continuing interaction, but may not have much to say to its students, at least little by way of a point of view to accentuate or convert or anchor initial disposition. That is, the contents of campus values play an important role; values that connote a certain flare or excitement are more likely to have influence than those that are felt as flat and routine. For this reason a campus with a general distinctiveness is likely to make the crucial difference. A highly distinctive, unified college, such as Reed or Swarthmore, enmeshes its faculty and students in a supposedly unique and highly valued set of symbols and practices to the point where the system of belief takes on the qualities of an institutional mystique or myth. The investment of emotion, the identification of the self with the institution, are then very considerable. Institutional myths are operative when graduates of a college feel closely identified with other graduates before and after their time, on the basis of experiences considered unique to their campus. But a high level of distinctiveness is found only in unusual cases, in eminently successful, integrated colleges or universities. Low distinctiveness, the common situation in both public and private institutions, means that what the college as a whole is about is not very exciting, that the institution does not powerfully assert itself in interaction and dialogue with the student. Many small colleges that provide the conditions of relative homogeneity and interaction do not provide this third condition of value excitement. There is a society, but little action within it. In extreme cases, the belief system of the campus is virtually quiescent.

The Conditions for Maximum Accentuation and Conversion

In attempting a systematic explanation of the conditions for strong accentuation and conversion effects in American colleges, it is necessary to use a formulation that couples the general character of the student input and the general character of the college setting in which students live. Here the observations of Newcomb et al. (1967) on the differences between the effects of Bennington College on its students in its early years in the late 1930s and later, in the early 1960s, are especially helpful:

> As of the 1930's we conclude that the processes of initial self-selection and subsequent influence by college norms were somewhat as follows. At that time, the public image of the college—and hence, presumably, the processes of student self-selection—were for the most part unrelated to the influences toward nonconservatism that awaited them there. It might therefore be said that attitude change then represented, for a large number of students, processes of "conversion," that is, of shifting from a generally conservative point of view in terms of then-relevant public issues, to a nonconservative position. . . .
>
> A quarter-century later, the college had achieved a public image such that the self-selection of students was made on more realistic grounds. Entering freshmen were now, in the main, as politically "liberal" as the older students whom they were to meet, and by whom they were likely to be influenced. The college appears to have earned a reputation for welcoming individual differences and encouraging creativity and intellectual independence. This was probably not the whole of its reputation; it did attract a sizeable minority of freshmen who were rather rapidly absorbed into "deviant" subcultures. But the great majority of the new students pretty well understood the dominant norms of the community into which they were moving. . . .
>
> Thus the 1959 freshmen did not, like those of their mothers' generation, differ from the "normative" seniors in direction, but only in degree. They were already distinguished from freshman women in most other colleges in ways approaching such norms as independence and unconventionality. There was no possibility of conversion-like changes toward those norms; their changes, rather, accentuated already existing tendencies. . . .
>
> . . . We conclude that dominant community norms at Bennington were and are potent. Depending on the correctness of prevailing precollege images, the effects of that potency are conversion-like (as typically in the 1930's) or reinforcing (as often in the early 1960's) in nature. . .[Pp.228-230].

Thus, when Bennington was new, the institutional reach of the campus was only weakly developed and self-selection was only weakly operative; but the on-campus life, given a particular character largely by the expressed goals and values of the faculty, was already "potent," and the combination of fairly average students (the result of weak public image) and a potent curriculum produced strong conversion effects. In the more recent situation, after a salient reputation had developed, institutional reach and self-selection were strongly operative; the campus experience was, more than before, potent in its combination of relative homogeneity, distinctiveness of campus norms, and persistent and intense interaction between liberal faculty and liberal students. The combination of strong reach and potent campus spelled strong accentuation effects, at least for a majority of those who completed the four years.

In short, broad patterns of influence and impact can be conceived of as a function of image potency and campus potency. Dividing image potency into high and low categories, and campus potency into high and low, gives the following four possibilities:

1. When image potency and campus potency are both high, the dominant pattern of campus influence leads to strong accentuation effects. Bennington of 1960, Antioch, Reed, and Swarthmore are examples of colleges in which these effects were likely to occur. Obviously, such a single interpretation covers only a large proportion of students since withdrawal was another important phenomenon in three of the schools.

2. When image potency is low and campus potency high, the dominant pattern tends toward strong conversion effects. Such effects are likely to be found in distinctive colleges in their early years or early phase of distinctiveness, where reputation had not yet caught up with campus practice, such as in Bennington of the late 1930s. This situation does not often occur, nor does it last very long. Perhaps campuses cannot be expected to be permanently characterized by strong conversion effects, yet, in the present study something approaching the conversion effect in intellectual disposition was detected for a significant number at Swarthmore.

3. When image potency is high and campus potency low, we should expect weak accentuation effects. The campus obtains the "right" kind of student, in the sense that the values of the freshmen presumably already lie in the same direction as those of the faculty and the seniors, but the campus normative system is not a powerful, exciting one. This situation may obtain in private

colleges known to be of certain character whose campus climate nevertheless could hardly be characterized as heady. This third category may include public colleges of unusual reputation which admit a large sample of capable students, but have great campus heterogeneity, e.g., the University of California at Berkeley.

4. When image potency and campus potency are both low, the dominant pattern of campus impact will be weak conversion effects. Weak image brings a mixed bag of students, many of whom will have values in dissonance with those of the faculty. But the conditions for strong conversion will be lacking, because of some combination of relative heterogeneity of values, low degree of interaction, and low degree of institutional distinctiveness. This situation is most likely to obtain in relatively unselective, large public and private institutions. San Francisco State College of the 1950s probably fell into this category.

These four combinations of image and campus potency, with four resulting effects, are hypothetical types that can be applied in the gross analysis of whole colleges but not to individual students or diverse subgroups of students. Because every campus with some heterogeneity of student types and some heterogeneity of campus subclimates will have more than one kind of effect, it is not possible to predict the effect of a dominant pattern on any individual without first ascertaining whether he fits the modal entrant and partakes of the modal campus norms and values. The earlier discussion of the conditions of maintenance or anchoring effects emphasized that subcultures of a campus, especially in the large university, can insulate the individual almost completely from the dominant tendencies of the campus.

Importance of Campus Size and Complexity

The relationship of student characteristics and campus program to the effects of college on students remains an extremely complicated matter. It clearly involves delicate issues in balancing the homogeneity and diversity of those who come to a college with the organizational features and cultural parts of the campus. A campus can be too consistent, too unified. Surely many small private colleges in the United States, still narrowly tailored to denominational demands, lack the potential of significant influences because of greater homogeneity, rather than heterogeneity, both in their entrants and in campus norms and values. Homogeneity may be a problem even in elite, successful colleges. Reed, for example, has had to contend with the problem of a seemingly excessive homogeneity, of closure around a nonconforming style of life that makes for tight boundaries in the accommodation of students to their peers.

However, most college students in the United States are and will be on campuses where the problem is one of fragmented heterogeneity. Some defects of the campus at Berkeley clearly lay in the opposite direction from those of quite different places like Reed or St. Olaf, toward cultural fragmentation and social detachment for large numbers of students. Such a large university campus has a social system with many of the characteristics of the metropolis. And as the modern metropolis has its severe problems of social disorganization and ineffectiveness, so does the educational city, with all its cultural richness, have its problems of large numbers of individuals straining, and often failing, to connect meaningfully with the many streams of life that flow around them. The faculty and student body are only loosely and segmentally related. To take care of themselves, many students elaborate a host of subcultures in which the influence of student peers may not complement and reinforce the faculty, but may, on the contrary, resist faculty values. Faculty influence on the student, at the levels of personality, attitude, and value with which this investigation has been concerned, is thereby diminished. Only under special conditions of campus integration are faculties likely to be influential in more than cognitive learning or vocational training. As put by Feldman and Newcomb (1969), after reviewing all studies to date on the impact of colleges upon their students:

> Though faculty members are often individually influential, particularly in respect to career decisions, college faculties do not appear to be responsible for campus-wide impact except in settings where the influence of student peers and of faculty complement and reinforce one another [p.330].

For the 1960s, it seems fair to say that in the case of the largest campuses in the country, the mega-universities, the campus functions first to serve the needs of scholarship and status of the faculty; second, to provide efficient training for the professions; and only third, to affect the general values and fundamental intellectual dispositions of the students.

For substantial influence on students the following balance of campus unity and diversity seems necessary: A campus needs a unifying ethos, such that there is a culture hero for most of the students, and two or more student subcultures, reasonably well-integrated with each other and the rest of the campus, such that there is room for subheroes. Swarthmore, for example, clearly had a unifying ethos and there was no doubt about the majority of the students' culture hero. He was a very bright student, seriously academic and intellectual, who won such academic prizes as finishing high in the Honors competition. The athlete, the campus politician, the Don Juan, the future corporation president were not serious competitors for the status of hero. Yet along with this cultural consensus, some diversity remained, some room for subheroes. There were genuine alternatives of participation and reward among the conservative, the generally independent, and the nonconformist student groups. Each subculture provided room for pleasure and accomplishment for those who did not possess the "ideal" combination of campus virtues.

Antioch, where strong accentuation effects occurred, also was somewhat homogeneous in students' interests; it had strong academic departments that exalted academic values and liberal attitudes, but it also had "vocational" courses that provided departmental homes for less liberal students and those less concerned with intrinsic intellectual pursuits. Around general agreement on what was primary, there was tolerance at Antioch for what was secondary. In contrast, on the extremely homogeneous campus, there is no tolerance for what is secondary; and on the extremely heterogeneous campuses, as they are commonly structured, there is no agreement on what is primary.

Thus, an effective campus, in line with the values implicitly held by those who conducted this investigation, would seem to require the following conditions: It needs a definite encompassing ethos, preferably one in which the intellectual is hero; it needs several ways in which students can pass through effectively and legitimately without conforming to the hero image in all respects;

and it needs a definite character, with room for a reasonable degree of diversity.

The idea of the influential campus that may be constructed from research findings and interpretations supports the vision of many educational reformers in this age of mass higher education. The primary problems of American higher education lie in the large establishments that dominate the public sector, and there has been growing recognition that these large places must be substructured if the individual is not to be lost in the mass. The campus substructures that many innovators have had in mind consist of such units as residential colleges, clusters of dormitories, learning-living units, and new groupings of disciplines that have some distinctive purpose and special composition, some consistency and difference that can be made a part of the lives of the administrators, faculty members, and students who participate in them. The search in the educational city is to create neighborhoods with unifying distinctions.

The very large campuses, already generously endowed with alternative styles of faculty and student life, stand in little danger of a strangling homogeneity. Their danger is that they may not be able to provide the unities, the consistency of relationship and experience in smaller spheres of the campus within which professor and student, and student and student, can encounter one another. As they face the flood tide of mass higher education, many scholars fear that more means worse. More students on ever larger campuses *can* easily mean worse education. But more need not mean worse when the nettle of campus substructure is grasped. On this, an otherwise mundane administrative matter, so much depends. Perhaps the day is soon to come when student and college relationships will combine the best of the unity and coherence of the small liberal arts college with the best of the pluralism and diversity of the state college and university.

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